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PREVENTION OF HEART DISEASE*

BY WILLIAM H. ROBEY, M.D.†

MOST physicians and many laymen know that heart disease is the greatest cause of death in the United States. In 1925, the annual quota of deaths was close to 200,000 and in 1929 more than 225,000. In the opinion of Louis I. Dublin it is likely that the preëminence of heart disease as a cause of death will increase rather than decrease as time progresses. The control of tuberculosis and other infectious diseases, the earlier recognition of rheumatic fever as it occurs in children, the eradication of infected tonsils and diseased teeth, have all contributed to a strikingly lowered mortality not only in common diseases with which children are afflicted but in cardiac death-rate as well. In New York City, Cincinnati and Boston, surveys of the public school children showed that an average of one per cent. had organic heart disease. In the Boston survey it was not difficult to obtain a history of some of the symptoms of rheumatic fever, focal infection, or both, in most of the cases. Except for the very small percentage of congenital heart disease, people are born with normal hearts so that cardiac infections, in the earlier years at least, come preëminently within the fields of infectious diseases and preventive medicine. Naturally, the reduction of mortality in childhood and youth increases the likelihood of death from circulatory affections in the later decades. The medical literature of today is replete with clinical studies augmented by laboratory investigation of declared cardiac lesions until the physician who adds reading and study to his clinical findings may become familiar with heart disease. He may treat his cases with as much success as the type of lesion and the degree of compensation permit; yet, after all, he and his patient are engaged in a losing fight. He may understand, not by percentage tables but by appreciation of the individual case in question, the degree of cardiac rest required and the amount of digitalis necessary to augment the rest; yet, in the last analysis, he is caring for a crippled member of society and one who is bound to become an increasing economic loss to industry. Do not misunderstand me. There is no intention to belittle the need of a thorough knowledge of the management of the damaged heart. Lesions of that vital organ will always demand a considerable proportion of our attention, but we hope in diminishing amount. Better understanding of the duration of rest and exercise and of proper digitalization will contribute to the well-being and usefulness of the victim of cardiac disease. Unfortunately heart disease comes well under the old adage: "What can't be cured must be endured," and it is, of course, our duty to make the condition endurable.

*Read before the New England Health Institute, April 18, 1930.

†Robey—Clinical Professor of Medicine, Harvard University. For record and address of author see "This Week's Issue", page 1019.

FUNCTIONAL DISTURBANCES

While not germane to our subject of prevention, it may be said that much of the study of organic heart disease has made us keener in the recognition of functional disturbances. Increased rate, respiratory irregularity, a systolic murmur, a slight displacement of the cardiac impulse, a little elevation of systolic blood pressure, a vague discomfort in the precordial region have all brought out our best diagnostic acumen in distinguishing functional from organic disturbances. A mistake in the interpretation of innocent subjective signs may change a supposed cardiac into a neuropath.

It is important not to brand a child with the ominous diagnosis of heart disease merely because a mitral systolic murmur is heard. The child may have a perfectly good medical history and be well and energetic, yet the dread of the "leaking valve" fills his parents with fear and their solicitation may turn him into a mollycoddle. His career may be completely changed and what would have been a healthy, useful member of society becomes a valetudinarian. The problem of the functional murmur is receiving earnest attention from school doctors, industrial physicians and army examiners.

Another type of functional disturbance of the heart which has been studied intensively, during the last twenty years, is the tachycardia of the toxic thyroid. Now many physicians and surgeons are able to recognize early and treat successfully this disease before the heart becomes exhausted by over-exertion. Among other tests the basal metabolism is the great elucidator of the condition.

During the war a rapid action of the heart accompanied by cyanosis and tremors, known as "soldier's heart" or neurocirculatores asthenia, made a large number of soldiers unfit for duty. It was a pure neurosis without organic involvement of the heart and was most successfully re-

lieved by a discharge from the army. It occurs in civil life in certain types of individuals, especially when undertaking some new or irksome form of work or undergoing an emotional strain.

Equally important, even in the presence of some organic lesion, is the determination of the relation of other diseases to the heart, such as a diseased gall-bladder or arthritis. The physician must constantly bear in mind the necessity of estimating the degree to which the heart is responsible for the patient's symptoms.

A man of fifty-eight years, well within the age of cardiac sclerosis, consulted the writer because of a discomfort in his precordium. He had heard and read about angina pectoris and was convinced that he had it. His history and examination did not reveal anything which warranted a diagnosis of cardiac disease. He was unconvinced and consulted several cardiologists until he found one who told him that he had coronary disease. This statement left him, however, in much the same situation. Before, he had been endeavoring to secure a positive diagnosis of cardiac disease, and having obtained it, started out in his search for a confirmation or negation. In due course, I again appeared in his orbit. I read the letters of his other consultants, especially the one with the positive diagnosis, which seemed to be based on his statement of pain rather than physical findings. His medical history was much the same. There was no undue fatigue, no breathlessness with ordinary exertion and no nocturnal pain nor tachycardia. I regret to say that I missed one point in his history at my earlier interview. He said that the pain came on while sitting at his desk after about an hour of writing. X-ray plates of his spine showed hypertrophic arthritis of the fourth, fifth, and sixth cervical vertebrae. There were definite bony spurrings on the corners of all these bodies and beginning fusion between the fifth and sixth cervical bodies. There was also some calcification in the ligament which runs from the seventh vertebra to the base of the skull. From the history of the pain and its very slightly altered characteristics in five or six years we were justified in assuring him that the discomfort about the heart was not angina pectoris. The fact that a recent electrocardiogram taken in my office showed delayed conduction time between auricle and ventricle indicates some cardiac degeneration, but in the face of such a history, is not sufficient to establish the diagnosis which constantly disturbed the patient's mind.

We must be careful not to inculcate a dread of cardiac disorder which does not exist, merely because we are careless of details, unable to interpret signs, or too easily swayed by an x-ray or electrocardiogram. As Herrick says, these mistakes are to be explained by the fact that the doctor has a surplus of honesty and is earnestly desirous of making an early diagnosis of heart disease. He has learned that if he is to prevent a serious cardiac failure he must, as in cancer and tuberculosis, be able to diagnose the condition in its incipiency. Mistakes in cardiac diagnosis may not spell disaster, but they may blaze the path to apprehension and misery.

IS THE PREVENTION OF HEART DISEASE POSSIBLE?

Physicians—sometimes those most interested—have asked if we are doing anything worth while to prevent heart disease. Can heart disease actually be prevented?

In attempting to answer these questions, let us review the types of heart disease which commonly receive our clinical consideration. They are the rheumatic, syphilitic, and arteriosclerotic. According to Emerson, when rheumatism completes its cycle from onset through a period of disabling symptoms to and through the time of decompensation, all under the age of forty (which occurs in the great majority of cases), we find that the onset is under ten years of age in 19% of the cases, between ten and twenty years of age in 37%, between twenty and thirty in 23%, and between thirty and forty in 21%. On the average, four years elapse between onset and cardiac disability, which continues, in varying degrees, for about seven years before decompensation and with it probably complete disability develops, which continues for about four years until death. Mitral stenosis, the common lesion of the rheumatic group, is the usual basis for cardiac failure in young persons. The infections of early life doubtless play a considerable part in the cardiac degenerations of middle life, quite apart from syphilis. This is a difficult tenet, yet they must be responsible for numerous early scleroses of the arterial system which we see where syphilis and endocarditis are not factors.

The importance of early recognition and prompt treatment is paramount.

DIPHTHERIA

The effect of diphtheria in producing permanent disablement of the heart is slight. What effect there is occurs largely as a toxic one at the time of the disease, for it has been shown that all of the characteristic histological changes found in the heart in fatal cases can be reproduced experimentally by injecting animals with bacteria-free diphtheria toxin. A waxy, hyaline, or fatty degeneration occurs in the muscle fibers of the heart, but this is quickly followed by accumulations of wandering cells in the interstices of the muscle in an apparent effort to cleanse the damaged areas and to repair injury. A recovery must occur because the myocardium, in the majority of cases, is able afterwards to function efficiently. Rarely is endocarditis a complication of diphtheria, although the lesion has been described, but permanent injury to the valves seldom occurs. We have all seen cases of diphtheria where the cardiac embarrassment seemed extreme, where cardiac weakness, pre-

mature contractions, block and auricular fibrillation pointed to serious and permanent damage and yet when the disease was over, little, if anything, remained to indicate cardiac involvement. Naturally, then, prompt and efficient treatment with antitoxin will diminish the effect of the toxin on the heart.

SCARLET FEVER

The toxic effects on the heart in scarlet fever are quite similar to those in diphtheria and serious damage to the structures of the heart, while a little more common, is infrequent.

In the group which includes glandular enlargement, nephritis and arthritis, Nicoll states that endocarditis practically never occurs except as a complication of arthritis. However, one can hardly believe that the endocarditis comes as a result of arthritis but merely as a part of a blood stream infection of sufficient virulence to invade a number of different structures, as is the case in rheumatic fever. It is probably due to a prolonged action of the streptococcus of scarlet fever.

The malignant form of endocarditis is but rarely seen in scarlet fever, but, when it does occur, differs little if any from other types of subacute bacterial endocarditis. Fortunately the introduction of scarlet fever antitoxin will reduce even the formerly small incidence of all of these scarlatinal cardiac conditions.

RHEUMATISM

Undoubtedly, infections with the organisms of the rheumatic group are responsible for much of the cardiac disability of the third, fourth, and possibly the fifth decades of life. It is not within the province of this paper to discuss the bacteriology of rheumatic fever. The specific organism has not yet been found notwithstanding the splendid researches of Poynton and Paine, Swift, Small and many other investigators. Until it is discovered, we are left in the helpless situation we formerly experienced in the treatment of diphtheria and scarlet fever. An account of the experimental studies in the bacteriology of acute rheumatism is a lengthy chapter and my remarks are addressed to a group primarily interested in the varied clinical manifestations of the greatest cause of cardiac disease in the young. Even if we knew the definite causative organism, it would not change in the least our discussion of the physical signs of rheumatic fever. Apart from bacteriology it is interesting to note the work upon the methods of infection and the areas involved. Swift explains that if it is possible to assume that the submiliary nodule of Aschoff represents mainly the proliferative response of the tissues to implantation of a bacterial body or some particulate product of such bacterial body, then it can be readily understood how such an exudative response as edema might occur at some distance and lead to distinct clinical symptoms. The occurrence of such an exudate which might appear and disappear could easily give rise to the varying changes in the electrocardiograph seen in a single patient during the course of rheumatic fever. On this assumption may easily be explained the transient appearance of heart block during the active stage of rheumatic fever, it having been discovered by electrocardiograph in 50% of the cases in one of our services at the Boston City Hospital. It was known to clinicians before the days of the electrocardiograph, the writer having found it by ordinary methods several times. After the cessation of joint exudates and fever under large doses of salicylate of soda, the conductivity usually returns to normal. Another evidence of exudate and edema in the heart was seen by the writer, some years ago, during the course of a prolonged and violent attack of rheumatic fever in a young woman. She developed a rough presystolic murmur at the mitral area accompanied by a thrill, all of which disappeared early in the convalescence. It might be argued that we heard a pericardial friction rub, but the murmur remained fixed in one position and was unaccompanied by a rub in diastole, by pain, or by any subsequent signs suggesting fluid. I explained the murmur to the students, at the time, on the basis of an inflammatory process in the heart wall, causing swelling about the valve opening. In the literature a similar case was reported by Sir James Mackenzie without explanation of its mechanism. Since the signs of organic mitral stenosis are largely due to cicatrization of the valve orifice, such a condition would not be possible during the height of an attack of rheumatic fever unless mitral stenosis had previously existed.

Interesting, also, are the findings in this country that endocarditis occurs through the blood vessels of the valve and that the most vascular are equally most apt to be affected in rheumatic fever. In children endocarditis is most frequent when the valvular vessels are most numerous and the lesion diminishes with age and lessened vascularity. Of great importance to clinicians are the studies of Winternitz and others of the lesions of the larger arteries and veins in infection. This will have distinct bearing upon the myocardial degeneration and hypertensive cases in middle life which appear to have escaped endocarditis and other serious damage at the time of rheumatic fever years before.

DIAGNOSIS OF ACUTE RHEUMATISM

A polyarthritis with fever involving the smaller joints such as the fingers and the larger ones as the knees and ankles, very painful on motion, hot, red and tender to the touch, is easily recognized and familiar to all clinicians. If we are to depend, however, upon such a manifestation of the disease, especially in children, we will fail many times in diagnosis. Twenty years ago, George F. Still in his book, "Common Disorders and Diseases of Childhood", gave a

description of the obscure signs of rheumatic fever in children which is as valuable today as it was then and should be carefully read by every practicing physician.

Rheumatic fever under two years of age has been authentically reported, but it is very rare. In children the joint symptoms are of much slighter character while the cardiac lesions are much more pronounced and frequent. Growing pains, or pain in the thigh or calf, should be taken as seriously as pain and swelling of the joints. Vague sore throats, nervousness and irritability quite apart from definite chorea, which is a distinct part of the rheumatic fever symptom-complex in children, should never be passed over as of little importance. Another symptom of significance, to which the English and German physicians have given considerable attention, is the rheumatic nodule. In recent years, hospital physicians in this country have found it much more frequently than formerly because they have searched for it. In adults it is very much less common. Still reported finding the rheumatic nodules in twenty-three children out of fifty consecutive cases under twelve years of age. It is rare to find the nodules without some other manifestation of rheumatism. They may be found with chorea without other clinical evidence of rheumatism. The nodules may be discovered over the condyles of the humerus and femur, the spinous processes of the vertebrae, the malleoli, the ends of the radius and ulna, the knuckles, the occipital bone, the scapulae, and, less frequently, over superficial tendon-sheaths. When they are over the occipital bone, they may be the cause of the headache of which some children complain and should be thought of in the search for the cause of this symptom in children.

Chorea, which is to be distinguished from habit spasm, is just as much a part of rheumatic fever as tender joints. Several years ago, when working in the Children's Service of the Boston Dispensary, we noted that chorea often showed itself among school children in the fall and spring of the year. It most frequently occurred in earnest children who took the beginning of the school year and the examination periods seriously. They exhibited this symptom of rheumatism because their resistance was lowered at such times. Quite parallel was the case of rheumatic fever in the adult with a focal infection, who came into the hospital, remained six weeks or more, was then returned to his work, only to reënter in a few months, as soon as his resistance to his focus was lowered.

Unexplained fever with vague symptoms, perhaps pain in the stomach, nausea, vomiting or epistaxis, may all be indicative of rheumatism in a child. The point which we as clinicians must always bear in mind is that the symptom-complex of rheumatic fever may appear in almost any order. Sometimes a tonsillitis and a heart lesion may precede the polyarthritis, or the order may be reversed. Rarely a purpura or erythema multiforme will show before the other signs.

Swift says that in the production of most diseases a number of contributory factors must be present. As yet we are unable to state why all persons hypersensitive to streptococci do not have rheumatic carditis, any more than we can determine why all scarlet fever patients do not develop nephritis, or even why some with streptococcus scarlatinae infections do not have a rash, but the existence of a state of hypersensitiveness to streptococci can account for many of the known features of the disease. The extensive exudative reaction seen in hypersensitive rabbits, following implantation of small numbers of streptococci, explains how much relatively avirulent micro-organisms could produce extensive edema and marked outpouring of cells in patients who are similarly hypersensitive.

FOCI OF INFECTION

While we are waiting for the discovery of the specific organism of rheumatic fever, we must turn our attention to the foci of infection. Even after the organism has been found, we will still be faced with the problem of the focus in each case. In most articles on rheumatic heart disease the tonsils are placed first in the list of causes; yet when various authors discuss this subject, they express grave doubt about the value of tonsillectomy, claiming that the operation does not prevent subsequent attacks of rheumatic fever. Those who believe in the enucleation of the tonsils as a preventive think that the reasons for failure may be classed as follows:

(a) The operation may be imperfectly performed and tonsillar remains be left, which act as a focus in subsequent attacks. Robey and Freedman, in a study of 454 cases of rheumatic fever found that of 201 tonsillectomized cases, 139, or 31 per cent., did not develop subsequent rheumatism or chorea; 45, or 10 per cent., had subsequent rheumatism, and 17, or 4 per cent., had subsequent chorea. In this group there were 32 cases with the evidences of poor tonsillectomy.

(b) If the tonsils are allowed to remain through repeated attacks, they succeed in establishing other foci, principally in the synovial membranes of the joints, which, in turn act as foci of infection, even though there has been a complete tonsillectomy.

Kaiser found rheumatic heart disease in 450 of 20,000 tonsillectomized children and in 817 of 28,000 who were not operated upon. Many of the children in the former group developed heart disease before tonsil enucleation. A careful analysis of 478 cases of carditis showed that in 83 per cent. the condition developed before tonsil removal and in 17 per cent. following tonsillectomy. He concludes that the tonsillectomized child is assured a greater protection against rheumatic fever, scarlet fever and chronic heart disease than the one who has not had his tonsils removed.

Robey and Finland studied 165 cases of rheumatic fever: 71 were operated upon for infected tonsils, while 94 were used as controls. They concluded that rheumatic fever could be brought to an end after study and elimination of other foci by performing tonsillectomy, even during the height of the fever and inflamed joints. The cases were not operated upon until all of the usual medical measures had been thoroughly tried without success. The object of the operation at this time is to save the heart, if possible, by ending the infection, and to reduce economic loss. In 16 the results were brilliant, in some the entire process being brought to an end within three days, when it had been going on with repeated attacks from four to ten weeks. In 8 the operation apparently accelerated improvement; in 9 there was no apparent effect on the course. No deaths nor complications occurred in the operated cases and we recommend it as a perfectly safe procedure when other methods fail. In 21 cases operated upon while quiescent, 4 had a mild return of symptoms. Four had a moderate return, 1 had severe sore throat and 1 a post-operative hemorrhage. In the 94 unoperated cases there were 3 deaths; 2 due to pneumonia and 1 to pulmonary infarction. A full report of this study will be published elsewhere. Laryngologists are still fearful of lighting up a general blood stream infection with death by operation during an active rheumatic infection. This did not occur during our series. On the other hand, the writer has seen two deaths in private practice within a year from tonsillitis without operation.

TEETH

The teeth are less apt to cause cardiac involvement than the tonsils. In the writer's experience, healthy-looking teeth are more frequently a source of obscure cardiac infections than the clearly diseased ones. By this we mean that a firmly embedded tooth with an infected root canal is a greater source of danger than a decayed tooth loosely placed in the alveolar process and evident to the patient and his dentist. That infected teeth occasionally are a cause of cardiac pain cannot be doubted. Usually x-ray studies and their competent interpretation are necessary to determine the possibility of root canal infection.

SYPHILIS

Next to rheumatic fever as a cause of heart disease, especially in the young adult, comes syphilis.

The term "syphilis" was first used by the distinguished Italian physician, Francastoro, in 1530. At the end of the fifteenth century an epidemic of great intensity invaded Europe. Charles VIII of France entered Italy in 1494 and 1495 with an army of adventurers from various countries accompanied by a dissolute train of camp followers. A venereal plague ran through the Italian cities. It was at this time extremely malignant, a fact explained by Bloch who maintains that this was the first appearance of the disease in the Old World because it was implanted on virgin soil. The secondary symptoms appeared very early; often in a few days there was high fever, intense pains in the joints, severe skin affections, and frequently death.

It is said that the comparative mildness of syphilis today is due to the fierceness of this epidemic.

Las Casas, who lived for many years in the Island of Hispaniola, questioned the Indians and was convinced that the disease had long existed among them but in a far milder degree than among Europeans. Columbus returned from the West Indies, in 1493, bringing with him ten Indians from Hispaniola to Seville, who, together with a few infected sailors, spread the disease through Spain. It is interesting that syphilis was so mild in the West Indies, where it had existed for so many years that the virus had become much attenuated. With the Europeans, unaccustomed to the disease, it played havoc. In like manner, during the World War, measles attacked the soldiers from the Virginia and Kentucky mountains unaccustomed to contagious diseases with considerable violence.

The French spoke of syphilis as "mal napolitain" and the Italians as "mal francese"—neither seemed to covet the honor of its introduction. According to Oviedo and later, Osler, syphilis was an American disease. No European bones earlier than 1493 showed evidence of it.

In the eighteenth century Lancisi described cardiac syphilis and supported the observations of Paré, who considered syphilis as one of the causes of aneurism.

It is generally agreed that syphilis is essentially a disease of the blood vessels. From the beginning of the initial lesion to the final termination there is always endarteritis and periarteritis.

It is evident then that in almost any clinical manifestation of syphilis a vascular element is present. No matter where it occurs, whether it be in the gumma, the syphilitic gastric ulcer, the smooth serum discharging surface of the chancre, the hemiplegia due to rupture or thrombosis in the internal capsule, or angina pectoris due to syphilitic coronary disease.

Knowing, then, this evident fact that the spirocheta pallida tends to involve the vascular system in practically every patient, it is our duty to remember that no small part of syphilis of the vascular system will appear in our practice under the clinical mask of diseases of other structures but may fail to present any definite symptoms. Vascular changes may be recognized, as in syphilis of the nervous system, by certain signs and symptoms, but, to quote Stokes, it may always be assumed that when one-tenth of the process is causing symptoms

which come to clinical recognition, nine-tenths lie beyond the range of our clinical vision.

HISTORY OF SYPHILIS

Let us look critically at the medical history of our patients as they come to consult us and let us assume that they are men, since three-fourths of the cases of cardiovascular syphilis occur in them, not forgetting, however, the remaining fourth where the establishment of the diagnosis is even more difficult.

A considerable number of men will admit frankly an attack of gonorrhea, especially if it occurred during the early years before they settled down to the respectability of married life. In Stokes' series one-third of the patients with syphilitic cardiovascular disease could give no history pointing to infection. It might have been masked by the discomforts of gonorrhea or forgotten in the long interval between the initial lesion and the onset of the vascular symptoms. Everyone of us has had experiences such as I will relate.

A patient whom I had known very well for many years, upon whom I had made numerous physical examinations and had talked to about the dangers of allowing syphilis to go on year by year without renewal of treatment, came to me, one day, with an eruption which had much the appearance of psoriasis. The idea that this very correct and highly respected man was syphilitic did not enter my mind and I treated his psoriasis for a time because I had always been his physician and he did not wish to go to a dermatologist. Finding that the psoriasis was intractable, we finally consulted with a dermatologist, who said that, because of the tiny white scars which some of the healed lesions had left, it was undoubtedly a psoriasiform late syphilid. The blood and spinal fluid Wassermanns were negative. This man, although nearly sixty years of age, went for twenty-eight years without antisyphilitic treatment, in fact, no treatment since that given for four or five months immediately following the appearance of the initial lesion. He was most fortunate in the mildness of his infection and we may say of his spirocheta pallida what Lawrason Brown once said of the tubercle bacilli in a patient of mine who went to Saranac, that his bacilli had been to Sunday School. No history of a sore had ever been obtained from this patient and he had kept his early experience a secret until confronted with the statement that his skin lesions were syphilitic. Under several treatments with arsphenamin his skin quickly cleared and there have been no subsequent manifestations.

I acquired some wisdom from this experience, but not enough. A few years later a very active man of sixty-one, on whom I had made careful routine physical examinations for a few years and who had always been in perfect health, developed a small sore on the arm, which failed to heal. A blood Wassermann was positive and when told of the result he said that he had a small sore at the age of sixteen, the meaning of which he had never understood. As far as he could remember, he had never received any treatment for it. Although he has received vigorous anti-syphilitic treatment, his blood Wassermann remains positive. Yet I have never been able to discover any blood vessel lesions which would suggest vascular syphilis.

The virulence of the spirocheta pallida must, unquestionably, vary, as does that of all other parasites and bacteria. Again, the differentiation of the spirocheta pallida into sub-varieties or strains is becoming more and more recognized. The presence of syphilis in husband and wife infected by the same organism tends towards the same clinical manifestations. The well-known series of cases in which five army officers infected by the same woman all developed paresis is another clinical example of the selective localization of a certain strain of the parasite. Since involvement of the vascular system is so common, it must be that a variety of strains attack this vital tissue.

Fordyce says: "It cannot be emphasized too frequently nor too emphatically that the fate of the syphilitic individual depends largely upon the early diagnosis of his infection and the intensity with which his treatment is carried out in the first six months. It is in the accomplishment of this purpose that the modern aids to diagnosis have rendered such invaluable service."

The diagnosis of syphilis should be made at the earliest possible moment by use of the dark-field illumination and the Wassermann or its allied tests.

From my consulting-room experience, I can say that a history of gonorrhea is frankly admitted by a large number of patients who have no knowledge of a possible syphilitic infection. It is a good plan to examine the blood of all your patients for the Wassermann reaction, but especially any who admit that they have had gonorrhea. The technique is simple and the expense nil since most Board of Health laboratories are equipped to perform the test.

Stokes, in speaking of the vascular distribution of syphilis, aptly says that the infection may be ubiquitous, insidious or disastrous. It is, therefore, necessary, knowing its tendency to invade most organs and especially the vascular system, to be ever on the watch for syphilis. When a man of character or position, who gives no history of a syphilitic infection, presents himself with vague or undefined symptoms, or who has any of the known signs of blood vessel or cardiac degeneration, we should suspect its presence and apply our tests. With such persons we are sometimes inclined to dismiss syphilis with the thought that their evident integrity is against it, but, knowing as we do that human nature is always the same, as pointed out by Voltaire and others, and that man will seek to gratify hunger and sexual desire, it may be that sometime in the dim past, the most up-

right man may have had the misfortune to acquire the infection.

Usually the disastrous period of vascular involvement is the tertiary stage and even then although diagnosis is more evident, early discovery is essential since treatment may be of some though far lessened service. Sometimes the initial infection is so violent that the usual sequence of stages is disturbed, as Brooks and later Reid have pointed out, so that a heart may become seriously involved a few weeks later.

Brooks has reported a case in which death resulted from perforation of the aorta just above the valve before the secondary eruption was fully developed and Reid saw a case at the Massachusetts General Hospital of a young man infected in June, who had sufficient signs for a positive diagnosis of syphilitic aortitis in September. Fortunately, such cases are not common but they occasionally occur, unhappily for the patient and his physician. Usually the tertiary manifestations of aortitis come on twelve to twenty years after the initial lesion. During the first year or two of my practice, I treated a young man for a chancre, during the absence of an older colleague. A little later he was returned to my friend and I did not see or hear of the patient until fourteen years afterwards, when I saw him in one of the wards of the hospital, with a well-marked aortic regurgitation. He denied ever having had syphilis, but when I reminded him that I had treated his chancre, he sheepishly admitted the facts. The average time for the appearance of syphilitic aortitis is about fifteen years after infection. Thus it so often happens that in early middle age, when the man is entering upon the benefits of a successful career, he is halted by a crippling disorder. Cardiovascular syphilis is seldom recognized in the first decade, forty-five per cent. of cases are recognized in the second decade, and thirty per cent. in the third. Aortitis precedes aneurism pathologically and chronologically. Many of our cases never go on to aneurism, the patient dying of cardiac and circulatory failure before the former condition is reached, or at least before it is possible to recognize it clinically. Valvular damage causes more pronounced symptoms than aneurism or even myocardial degeneration. On the other hand, an aneurism must show its presence by pressure and therefore must have size or position before its signs are evident to the average examiner.

Since the introduction of the Wassermann reaction and its allies, we have been greatly helped, yet it is sometimes absent when we fully expect it to be positive and positive in some cases to our great surprise.

The blood Wassermann reaction, however, is a great aid, though one negative should not decide against a diagnosis of syphilis. In some cases as many as five or seven are necessary before a positive reaction is obtained. Longcope found the Wassermann positive in 25 to 68 per cent. of cases of syphilitic vascular disease; 75 to 80 per cent. in aortic insufficiency; 85 to 90 per cent. in aneurism; and 75 to 88 per cent. in general aortic disease. In some cases a positive reaction is provoked by mercury or arsphenamin.

The frequency with which neurosyphilis and vascular syphilis are combined in the same patient has led Stokes to say that a routine neurological examination and spinal fluid examination should become parts of the study of every syphilitic patient with cardiovascular disease. On the other hand, it should be remembered that the presence of neurosyphilis does not necessarily prove that the vascular disease is of syphilitic origin, although I believe that we should give the patient the benefit of the doubt. I am afraid that many of us have not reached the point of testing the spinal fluid in every suspected case of vascular syphilis, although Frothingham called attention, a number of years ago, to the striking results of testing the spinal fluid in a series of patients, at the Peter Bent Brigham Hospital, who presented vague symptoms of previously unsuspected origin. The technique is much more difficult than for the blood reaction.

In reading books on the physical signs of aortitis, myocarditis and coronary disease, the diagnosis of the syphilitic origin seems simple, but from a long experience with these conditions, I believe it is extremely difficult to separate these cases into the syphilitic and nonsyphilitic. It becomes easier when we are dealing with patients under forty-five. The early use of the Wassermann reaction as a part of our general examination in every case, not only of those with cardiovascular disease but of our other patients, will serve to prevent the signs which may surprise us after all too obvious damage to heart and blood vessels has occurred. To diagnose a widened arch, a loud blowing diastolic murmur in a heart with its impulse in the sixth space and a water hammer pulse, to feel a pulsating substernal tumor, or discover that a young or middle-aged man has coronary disease because of dyspnea and precordial distress, are interesting findings for a medical undergraduate, but for the practicing physician, they are merely the signs of helpless medical mediocrity. Nor should we be lulled into a negation of syphilis in a young man because he has what the history suggests, a tonsillar or rheumatic infection with pains in the joints and a resulting aortic lesion, possibly without a complicating mitral involvement. There may be a negative history of syphilis and we are contented with our one negative Wassermann. While all cases of aortic valvular disease do not come from syphilis, still, of all the infections syphilis comes first in the production of uncomplicated aortic valvular disease with aortitis. We have been taught, and still teach, that aortic stenosis is due to some infection other than syphilis, but have we adequate and convincing knowledge that this is true? We feel satisfied that mitral disease is due to the streptococcus or its allies and never

to the spirocheta pallida. Warthin stated that he had never found a case from this source.

Arteriosclerosis in a young person should always make us suspicious of syphilis, while in the old, signs of insufficiency, dilatation of the arch, and even aneurism do not necessarily mean syphilis. Within a year, however, a man of 76 years was admitted to my service with aneurism of the ascending arch and a strongly positive Wassermann reaction. He denied an initial infection, so that we do not know how long the disease had existed. He was by far the oldest patient with syphilitic aortitis and aneurism I have ever seen. In your doubtful cases of arteriosclerosis in young persons, you may provoke a Wassermann reaction by the use of mercury and iodide of potassium for about six weeks, to be followed, if necessary, by four to six weekly injections of arsphenamin. I do not believe the reverse order should be used for fear of inducing the Herxheimer reaction.

ARTERIOSCLEROTIC HEART DISEASE

Haven Emerson states that in 1925, the total deaths from all causes in the United States Registration Area numbered 1,219,019 and there were 191,226, or 15.7%, from heart disease. Of these 170,482, or 89.2%, were in persons forty years or over. The largest number occurred in the decade 70-79 years. There is nothing very surprising or discouraging in the fact that heart disease is an increasing cause of death after sixty-five. Many of these cases are merely the final picture in a general arteriosclerotic breakdown, or represent the terminal stage in diseases of other organs. Perhaps you think that, since man must die and is able to reach sixty-five or more without physical disability sufficient to interfere with his comfort or earning capacity, he should be ready to accept this natural mode of departure without complaint, even with complacency. Gradually the average duration of life has risen from thirty to fifty-eight years, man having more and more escaped the deadly diseases of early life to succumb eventually to vascular degeneration. We have already indicated our part in the prevention of the infectious diseases as contributing factors in the malignant sclerosis of later life. Time, space, and the province of this paper do not make possible a discussion of the many-sided problems of vascular degeneration. If we are to prevent its ravages, we must hardly settle down to a régime of rest and digitalis, which is, in the last analysis, from our standpoint a stage of comparative helplessness. We must urge upon our patients, upon the general public, the necessity of routine physical examinations in order that they may come to us and give us the opportunity of recognizing the incipient signs of arteriosclerosis. It is true that arteriosclerosis is a progressive degeneration, the progress of which may be slowed if seen in time. It has its very definite history even when outstanding physical signs are lacking.

IN CONCLUSION

In conclusion let me stress the importance of considering every child as a case of potential heart disease. While we must interest ourselves in the recognition and treatment of declared cardiac disease, still I feel that in the past we have disregarded the heart too much in apparently healthy children, assuming that it would somehow escape injury, and we have not given it sufficient thought until one of the several disabilities has presented itself. Then we spend no end of time in discussing its numerous symptoms, signs and treatment. Would it not be far better to concentrate on the focal infections and diseases which affect the heart; to look forward rather than backward?

A young woman, now under my care, married and came from her home in the far West to live here. She has the appearance of perfect health, but there is a well-marked mitral stenosis. Repeated attacks of tonsillitis preceded the heart involvement and two physicians urged tonsillectomy, but the family physician, in whom her parents had unbounded confidence, opposed the operation as useless and unnecessary. She regretfully told me that nothing would shake their belief in his opinion until, at sixteen, conditions became so bad that they were prevailed upon to permit the operation. Now our interest is centered in guiding her life so that her heart may be spared undue strains. Tonsillitis has ceased, but the heart damage remains. Perhaps her physician had seen a case where tonsillectomy failed to prevent heart disease for some of the reasons which we have outlined. Was this child, however, given a fair chance? I am of the decided opinion that she was not.

That an ounce of prevention is worth a pound of cure was never truer than in heart disease. Shall we bend our energies to a study of the potential case or the management of the cardiac cripple? Both are vital but the first is of greater importance.

VERMONT STATE MEDICAL SOCIETY

THE DIAGNOSIS AND TREATMENT OF PNEUMONIA*

BY FRANCIS G. BLAKE, M.D.†

TO diagnose pneumonia is usually a relatively simple matter. To diagnose the kind of pneumonia is more difficult, and it is this aspect of diagnosis to which I wish to confine my remarks. It has been customary in the past to separate pneumonia into two groups, lobar pneumonia and bronchial pneumonia, largely on the basis of anatomical considerations. It is quite true that this differentiation has had much to recommend it, because the different anatomical types correlate with differences in the clinical course, symptoms and complications of the two types of the disease. In fact, this was the only possible method of classification before the advent of bacteriology and the development of knowledge concerning the etiology of pneumonia. In our present state of knowledge of the etiology of pneumonia, however, it seems no longer justifiable or satisfactory to continue to divide pneumonia simply into these two groups. In fact, it is no more scientific and no more logical than it would be if we continued to group typhoid fever, paratyphoid fever and the dysenteries, as formerly used to be done, as one disease, "intestinal fever." For unless one can diagnose cases of pneumonia in terms of etiology, it seems to me there is little opportunity for progress in the specific prevention or treatment of the disease. Furthermore, if one acquires the habit of diagnosing and thinking of his patients, ill of pneumonia, in terms of etiology, whether he uses in addition the anatomical diagnosis or not, one finds it is possible to conceive at once a much more adequate picture of the pneumonia in the individual patient. Consequently it should become customary to qualify the anatomical diagnosis of bronchial pneumonia, or lobar pneumonia, by an etiological diagnosis.

In the etiology of pneumonia there would appear to be at least three major factors concerned, namely, the bacterial incitant, the immediate predisposing cause, and the immunity or susceptibility state of the host. In other words, it is one of those infectious diseases in which the bacterial incitant is not the only important factor, but in which predisposing cause and host factors play equally important rôles in the occurrence, clinical course, and outcome.

The important bacteria concerned are the pneumococcus, hemolytic streptococcus and influenza bacillus; occasionally the staphylococcus, Friedländer's bacillus, and other organisms are encountered.

Of the predisposing causes we recognize two main groups. The more important is the group of primary acute infections of the respiratory tract,—common cold, influenza, measles, and whooping cough, which are predisposing causes in a vast majority of cases of pneumonia. The second major group of predisposing causes are those conditions which permit aspiration into the lower respiratory tract under circumstances favorable for infection, such as anaesthesia, acute alcoholism, exposure to cold, terminal stages of chronic diseases, etc.

Concerning the third factor in etiology, that is, the factor of variation in the inherent susceptibility of the individual who contracts pneumonia, we know relatively little. At the present time we have only suggestions concerning these host factors through recognition of variations in susceptibility to pneumonia and variations in the clinical pictures that occur at different age periods. These variations must be due, in part, to immunologic differences in the host, but at present we have no real knowledge concerning these differences, as we have in the case of diphtheria, for example, as worked out by the Schick test.

In using etiological diagnoses in pneumonia it is obviously most important to classify, primarily, on the basis of the bacterial incitant because of the fact that the development of specific measures of treatment will depend upon it and because the different organisms concerned produce different types of pathological lesions in the lung. It is furthermore often helpful in etiological diagnosis, to add the predisposing factor. For example, we get a much more vivid picture of the patient with pneumonia if we diagnose an individual case as influenzal streptococcus pneumonia,—a much more vivid picture of what the clinical course, the complications, the prognosis and the sequelae may be, than if we simply limit ourselves to the use of the term bronchial pneumonia. The same holds true if we speak of influenza bacillus or pneumococcus pneumonia, or postoperative pneumonia.

It has been shown that the pathological lesions caused by pneumococcus, hemolytic streptococcus and influenza bacillus are different, one from the other. You are familiar with these differences, but let me review them briefly in order to emphasize their important bearing on the clinical features and the complications and sequelae of pneumonia. The significant lesion that the influenza bacillus causes in the lung is injury to the bronchial mucosa and submucosa from main bronchus to terminal bronchiole, and that injury may vary from a catarrhal inflammation to actual necrosis, with destruction of the bronchial wall and acute bronchiectasis. The hemolytic

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streptococcus is associated with quite different pathological lesions, one of the most important of which is necrosis of the alveolar tissue in the area of consolidation, another of which is an early, often copious, seropurulent pleural exudate as contrasted with the fibrinous exudate of pneumococcus pneumonia. In pneumococcus infection there is little, if any, injury to the bronchial mucosa, rarely any significant necrosis in pulmonary tissue, and the pleural exudate is predominantly fibrinous.

As has been stated, the differences in the pathological injury may be correlated with the clinical course, the complications and sequelae of pneumonia. For example, it is quite clear that in the pneumonia in which influenza bacillus has taken part, one may expect a more or less marked bronchitis and bronchiolitis, with chronic bronchitis or bronchiectasis as a not infrequent sequela. If one knows at the beginning that one is dealing with an influenza bacillus pneumonia one is better prepared to interpret the persistence of the signs of infection, the persistence of cough and altered physical signs as being the clinical expression of chronic bronchitis or bronchiectasis, than if one is ignorant of the type of organism that is causing the infection. If one knows that a pneumonia is due to the hemolytic streptococcus, one is forewarned that a seropurulent pleurisy or empyema may develop early in the course of the illness, this complication occurring in 20% to 30% of streptococcus cases as contrasted with not more than 5% in pneumococcus pneumonia. One is better able to evaluate the physical signs, to interpret more accurately the significance of the signs in trying to determine whether there is fluid in the pleural cavity. With respect to pneumococcus pneumonia, if we are to advance in our knowledge of this disease we should divide pneumococcus pneumonia into the various types, I, II, III, and IV, not only because it is necessary for specific treatment, but also because the clinical features, including prognosis differ considerably in the different types. Unfortunately we are not yet in a position to differentiate, on purely clinical grounds, with a sufficient degree of certainty, all cases of pneumonia into etiological groups. This can be accomplished with certainty only by actual bacteriological examination of the sputum in the individual patient. There is gradually accumulating, however, since the introduction of the etiological grouping, a body of clinical knowledge concerning the characteristics of pneumonia which, eventually, should be sufficiently well defined so that we can be as accurate in an etiological diagnosis of pneumonia as we are now in the diagnosis of typhoid fever. These clinical differences with which you are undoubtedly familiar I do not propose to spend time in discussing here. It is worth emphasis, however, that such a simple thing as the examination of the sputum is of a great deal of importance in arriving at a tentative and often correct etiological diagnosis. You are familiar with the fact that typical sputum of pneumococcus pneumonia is a rusty mucoid sputum, that purulent sputum is often associated with mixed infections of B. influenzae and other organisms, usually streptococcus or pneumococcus, that the sputum in staphylococcus pneumonia is purulent and of a pinkish tinge. The microscopic examination of the sputum, stained by Gram's method, if one is familiar with the appearance of the various organisms, is a simple procedure and often serves to establish with a fair degree of accuracy what the etiological diagnosis is.

Time does not permit a discussion of other aspects of the diagnosis of pneumonia. I merely wish to emphasize again the fact that if we are to advance in our methods of prevention and treatment of pneumonia it is essential that we think, in diagnosing pneumonia, primarily in terms of etiology rather than merely in terms of anatomy. If we still use the terms lobar and bronchial, which it may be desirable to do for historical reasons, these diagnoses should be qualified by including at least the microbic etiological agents concerned, whenever this is possible.

With respect to the treatment of pneumonia, there is little new to present. It is well known that the case fatality rate of pneumonia still goes on at an average of about 25%, that the methods of treatment are constantly being revised in an attempt at improvement with the hope that some new method may be discovered by which this high mortality may be reduced.

The methods now used for the treatment of pneumonia may be readily divided into three groups; first, drug therapy, which has been employed since time immemorial; second, specific measures of treatment, which have been studied extensively for the last fifteen or eighteen years; and, third, the attempt to help patients by correcting disturbances of physiological processes that occur during the course of pneumonia, not by the use of drugs or specific measures of treatment, but by measures based on physiological principles.

With respect to the use of drugs in the treatment of pneumonia, some of the most important are those which are used in an effort to sustain, or as is sometimes said, to stimulate the circulation. It would doubtless lead to a much more intelligent point of view if we dropped the words "stimulate the circulation," because, after all, the circulation in pneumonia, i.e., the heart, is highly stimulated by the infection, and what is needed is not stimulation, but rest from overstimulation by infection. As a consequence of this point of view I think we may all agree that there is little rational or satisfactory evidence which supports the use of such drugs as strychnine or camphor in the treatment of pneumonia. The only drugs that benefit the circulation would appear to be the same as those which are of use in heart failure in heart disease, particularly

the digitalis group. The use of digitalis in pneumonia does not rest on empirical grounds, but on scientific demonstration of its action in patients with pneumonia. As you know, the two major actions of digitalis are, first, strengthening the heart action by its direct effect on the heart muscle, and, second, its effect on the conduction system. Here it is of special value in auricular fibrillation, by blocking many of the large number of impulses that pass downward from the auricle, thus permitting the ventricles to contract more slowly and more effectively. It used to be thought that, in the presence of pneumonia, digitalis did not act so well on the heart as it does in patients without fever, but it has been clearly shown by Cohn and Jamieson that the action of digitalis in pneumonia is the same as under other conditions. One attempts, then, by the use of digitalis in pneumonia, to accomplish two things. First, since it is well recognized that a small proportion of patients with pneumonia develop auricular fibrillation some time during the disease, to digitalize the patient early in the disease, so that he will suffer no particular difficulty, due to fibrillation, if it should develop, for if he were not digitalized the heart would become very rapid and ineffective. Secondly, since there is often actual dilatation of the heart in pneumonia, one endeavors by the use of digitalis to increase the contractile power of the ventricle, augment systolic output and prevent dilatation. For digitalis to be effective, the patient must be digitalized fairly rapidly, as in the Eggleston method of treating heart failure, which means that early in the disease, within 24 to 48 hours, the patient should receive, in divided doses, at least a gram to a gram and a half of digitalis folia. The additional amount necessary for digitalization should be given in the next two days in smaller divided doses. No useful result can be expected from the use of digitalis in pneumonia, if one starts in with 0.1 gm. three times a day, because it would take so long to get the patient digitalized that the time required might be longer than the ordinary course of the disease. The preparation which we use almost entirely is the powdered leaf and we rarely resort to intravenous medication.

The only other drug I wish to speak of is morphine. Many consider that there are contraindications to the use of morphine in pneumonia because it slows the respiration and might consequently be supposed to increase the deficient oxygenation of the blood. Another contraindication is its paralyzing effect on the intestinal muscles, tending to increase distention. There has been, only recently, a careful study to determine the effects of morphine on the reduction of the respiratory rate, the minute volume and oxygen saturation of the blood. In this study Davis finds that, except in a limited group of cases, under the use of morphine the reduction in minute volume and reduction of oxygen in the arterial blood is insignificant. The exception is in patients with very extensive consolidation of the lobar pneumonia type, all of one side, and perhaps one-half of the other side, or of the bronchial pneumonia type where the lesion is very diffuse. In these patients, morphine greatly reduced the oxygen in the blood, and it is therefore contraindicated in this group. My own feeling is that the place for morphine is in the early days of the disease, especially in those cases with severe pleural pain, but that it is not much needed later in the disease, and is often contraindicated in the later stages.

Of the measures of a physiological nature, the three which are being studied and tried are the use of oxygen, the use of glucose, and the use of sodium chloride. With respect to oxygen therapy it may be said that it has been shown quite clearly that oxygen is of no value in the treatment of pneumonia unless it is administered in an atmosphere containing at least 35 to 40%, or even 50% of oxygen. It is of value only when the oxygen content of the blood can be returned to normal. For this purpose the mask method is of no value. The nasal catheter method requires a rapid flow of two liters of oxygen per minute to bring the oxygen percentage up to 30 to 35%, and it would be of possible value then only in those cases with a relatively small degree of cyanosis and not in patients with extreme degrees of cyanosis. There are two other methods, the oxygen chamber and the oxygen tent. The first method is very expensive and only a hospital method. The second, the tent devised by Barrach, can be used at home or in the hospital. With either of these two methods adequate oxygenation of the blood can be obtained. The use of glucose, intravenously, in a 20 to 50% solution, would appear to be a reasonable method of treatment since it is well recognized that the caloric intake in pneumonia is low, while the metabolism is greatly accelerated. One can administer calories in a readily available form by the use of glucose. A more recently introduced treatment of this kind is the use of sodium chloride. It has been supposed for a long time that there was a retention of sodium chloride in the body during pneumonia because of the fact that the urinary excretion is very low. It has been shown recently, however, by Sunderland that the low excretion is in part an expression of a very low intake and that there is actually a chloride loss. He has attempted to use 15 to 30 grains of sodium chloride a day to make up for the deficiency. He states that abdominal distention is very much decreased and appetite is better. At present it is impossible to say with certainty whether the life of any patient is saved by the use of oxygen, glucose or sodium chloride. They are apparently rational methods of treatment directed toward the correction of abnormal conditions attending pneumonia.

The question of serum treatment is a difficult

one. There are two distinct points of view, that of Cole and his co-workers at the Rockefeller Hospital, who feel that serum in type I pneumonia, if properly used, greatly reduces the fatality rate. In their large series of something over 450 cases of type I pneumonia their fatality rate is 10.5%, a much lower per cent. than anyone else has been able to offer in as large a series of cases.

The other point of view was brought out by Locke, who found that with the exception of patients treated within the first three days, the fatality rate was the same in treated and untreated. And I think it is fair to say that in statistical data from most general hospitals, one would find not much difference between serum treated and non-serum treated cases. But one is often uncertain of the significant value of many of these statistics, because it is rather difficult to determine with certainty whether treatment has been adequate with respect to strength of serum, frequency of treatment and dosage.

From my own personal experience I am quite sure that good type I serum, if given early in the disease, before the patient is too far gone, saves lives. It does not save every life, but it helps. It must be given in adequate amount, at least 100 c.c. at a dose, and it must be given sufficiently frequently, at least every eight hours.

Evaluation of the concentrated serums, reported on by Cecil, Park and others is very difficult for anyone familiar with the theoretical considerations underlying the use of antipneumococcus serum. For example, Park states that 10,000 units is the therapeutic dose. This may have to be repeated, three, four, five, six or seven times, to cure the patient. Cecil favors larger doses. Furthermore it is not yet certain that serums can be accurately titrated in units as defined by Felton. Cole has found if he titrates the whole serum which he has been using for years, by the same method, that each c.c. contains approximately 2000 units, and it would consequently require only 5 c.c. to provide a therapeutic dose of 10,000 units. From past experience with whole serum that is a ridiculous conclusion, because 5 c.c. may be expected to do nothing. My own feeling is, with respect to concentrated serums, that they are still altogether too much in the experimental stage to be advocated for general use, and that much disappointment is to be expected from their use until they can be more adequately studied and more adequately standardized.

Discussion

Dr. Blodgett: The general practitioner in Vermont is a field worker, and may not be too scientific. The thing that the family and the general public is asking us is to cure disease. It has been said only today that there is very little in serums and I do not feel, in view of my own experience that I can let that statement stand. It is not in keeping with my knowledge or my experience in the handling of disease.

If I may be pardoned a personal word, I would like to state that I did nothing with serums and bacterin until ten years ago when I observed Sanborn of the Boston City Hospital, who was most successful in his use of bacterins.

To digress, I wish to express my gratitude to the men who have come here today and for the inspiration that they have given us, but I must record some experience in the use of bacterins and serums.

During the last seven years influenza bacterin and vaccine have been used in two homes with a total of one hundred twenty-five children, with a complete control of influenza infection, excepting during last year, and influenza last year did not come until the boys and girls had been infected successively with septic sore throat, measles, scarlet fever, and a second epidemic of septic sore throat.

The experience which I am stating covers a period of seven years, with a total of more than six hundred cases and with my own practice probably five thousand injections. The prevention and control of influenza was about 85%. In the treatment of influenzal pneumonia I have found that giving three full doses of 15 minimums of influenza bacterin at twelve hour intervals and then follow with Lilly's Antigens at six to twelve hours, robbed pneumonia of its terror. This experience has covered seven years of effort.

Let the influence of bacterin be what it may, whether from theoretical action of bacterin or from the giving of proteins, my experience corresponds with Rackemann of Boston, who reports cures in hay fever of 74%, and influenza about 69%.

In the country it is impossible to type pneumonia. At least five days' time is required to get a specimen to the laboratories, having it typed and the bacterin returned. Before this time the fate of the patient is settled for better or worse. We must work here with stock bacterin and vaccine.

I know of no other remedy or series of remedies that give more uniform results than bacterins.

Dr. Beecher: I want particularly to congratulate the Society on the papers presented, and I say it, having in mind, from my standpoint, Dr. Blake's paper. He served to emphasize that the clinical course of pneumonia runs especially parallel with the etiological diagnosis. That is that you can tell, from the clinical course of your case, without aid of the laboratory, what sort of pneumonia you have, if you are a fairly decent observer, and in view of the particular difficulties of laboratory diagnosis and country practice, it is a very valuable contribution. It served to emphasize, too, our helplessness, to any large extent, in any rational serum treatment.

DR. FARMER: I have been greatly interested, and inspired by these talks this morning, and I feel very grateful to these men who have come here and given us this discussion. I must admit that I am somewhat confused over just how to go about it to diagnose a common cold. I have patients coming into my office with coryza and no constitutional symptoms. They pass off all right, as common colds there, but when the patient gets home and in two or three days another member of the family comes down with coryza and constitutional symptoms, and another develops pneumonia, I wonder if the diagnosis of cold was right in the first place. We get jacked up occasionally by the State Board of Health whenever we have a severe epidemic of influenza, and they want statistics telling how many cases of influenza occurred in Vermont. We have been in the habit of calling these cases, without constitutional symptoms, colds. If severely sick we call them influenza, but for statistical purposes that doesn't go with the State Board of Health, they think there should be only one classification. This last winter we classified all the cases that came down as influenza; whether they had constitutional symptoms, or not, we reported to the health officer so many cases of influenza. I am not keen enough on symptoms so that I am able to foretell, when a person comes down with what seems to be a cold, whether that person is going to be a carrier to the family of what I may call the grip in one case, and influenza in another.

I would like to ask Dr. Blake one question, what to give for the delirium that comes on in the last stages of pneumonia where the patient wants to get home or get his clothes?

DR. SPERRY: In answer to a question asked would say that it is not possible to tell from the symptoms of a coryza case whether it will be very contagious. First we should as far as possible prevent the patient carrying infection. In our children's wards we put masks on the nurse during seasons of colds and exclude them entirely if they have colds. The patient at home should use the greatest care to prevent spreading infection and one way is to shorten, if possible, the duration of the bacterial invasion of the mucous membrane.

If we can make the noses as near normal as possible, the bacterial invasion will be less and the recovery quicker.

The taking of a large amount of water is one of the greatest aids and as there is frequently an acid condition, soda also helps. One-half teaspoonful of bicarbonate of soda in a glassful of water every hour works well.

I am glad bacterins and vaccines have been discussed. Because of the doubt as to the exact nature of these products I wrote to the makers and received the reply that a bacterin is a vaccine minus the protein, and that with bacterin you get less shock and can use the treatment in acute cases. Immunity is more permanently produced by giving of vaccine.

DR. BLAKE: I have nothing to add except that I wish to confirm the doubt that anybody can always make, with certainty, a differential diagnosis between cold and grip and influenza. It is usually just a question of how sick the patient is. We really don't know surely that they are all different etiological entities. Only the future can tell us.

The question of sedatives has become, in recent years, an important one, because of the increasing number of preparations available, each one advertised to be the most effective and the least toxic. It has been our experience that drugs of the barbituric acid group, principally luminal, are often dangerous drugs to use, particularly in old people; that instead of quieting the patient they are much more apt to increase and intensify a delirium or toxic psychosis.

It has not seemed to me that morphine was a proper drug for this purpose unless restlessness is due to pain. We all recognize that in some people who have an idiosyncrasy, morphine excites rather than quiets. I consider morphine primarily as a drug to relieve pain rather than a drug to relieve excitement or delirium. We find the use of chloral hydrate, the bromides, and paraldehyde rather successful.

DR. DALTON: This has been a very interesting and profitable gathering, and we all thank our friends from New Haven for coming up here and giving this instruction to us.

MISCELLANY

NOTES FROM THE BENNINGTON COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Bennington County Medical Society was held April 30 at the Putnam Memorial Hospital, Bennington. The study of pathologic tissue engaged the attention of the members present for most of the session.

On April 23 several members of the society availed themselves of an invitation to meet with the staff of the McClellan Hospital, Cambridge, N. Y. An excellent program was rendered, consisting of a moving picture film depicting surgical procedure, and an illustrated lecture on "Vitamins".

Henry S. Goodall, M.D., was taken ill while on a journey and is now at Nashville, Tenn., under medical care.

John R. Wilson, M.D., is ill at his home in Bennington.

THE WASHINGTON COUNTY MEDICAL SOCIETY

The first quarterly meeting of the Washington County Medical Society was held at the Vermont State Hospital as guests of the Waterbury physicians. Supper was served to about 20 members at the village tavern.

The meeting then adjourned to the laboratory of the Vermont State Hospital where Dr. J. C. O'Neil,

Assistant Superintendent, conducted a clinic on Huntington's Chorea. Many interesting cases were shown. The point of heredity in the etiology of this disease was well brought out by Dr. O'Neil, in showing a man who represents the sixth generation of direct descendants of a choreic patient. Several cases were also shown presenting the early manifestations of the disease, and some late cases, where they were so demented and in such continual motion as to render them helpless. In comparison he showed cases of Tic and Athetoid movements. Following the interesting clinic the business meeting was held. Applications for membership in this society were read from Dr. G. B. Goddard of Northfield, and Dr. R. H. Bisson of Montpelier. They were accepted to membership.

Dr. M. F. McGuire was appointed a censor to replace Dr. Lindsay, deceased.

A letter of thanks was read from the family of Dr. W. B. Mayo.

Meeting adjourned at 9:30.

CONTROL OF THE INTERSTATE SPREAD OF DISEASE BY THE UNITED STATES PUBLIC HEALTH SERVICE

The average citizen seldom has occasion to inquire into the measures which are taken to protect him from communicable diseases while he is traveling on a train or vessel in this country. He embarks upon his journey with perfect confidence that the water and food which will be provided for him will be as safe and wholesome as that which is served on his own table, and that his environment will be characterized by the same attention to sanitation and other health requirements that he enjoys under the administration of his own well-organized and efficient local health department. Yet, this is not accomplished without care and effort; and the railroad and steamship companies would be unable to afford the health protection which they desire that their patrons should have unless they were given the backing and assistance of public health authorities which in the case of interstate carriers is through the United States Public Health Service.

The regulations under which this Service acts are the Interstate Quarantine Regulations promulgated by the Secretary of the Treasury in accordance with Federal law. They stipulate under what conditions persons suffering from communicable diseases may be transported by common carriers, and they provide for their care en route and after arrival at their destination in such a way as to prevent them from being a source of danger to others. A government permit is issued for each individual case after consent has been obtained both from the State health officer from whose jurisdiction the case is being removed, and from the one into whose jurisdiction it is going. While the precautions to be observed en route differ somewhat depending upon the disease, they consist, in general, of the provision of an isolated compartment and a trained attendant who remains in isolation with the patient. Eating utensils are furnished for the exclusive use of the patient and his attendant. All necessary disinfection is carried out. Upon completion of the journey and the removal of the patient, the space and its furnishings are disinfected.

The drinking water which is furnished on common carriers must comply with a standard formulated by the Treasury Department, and can be derived only from sources which have been inspected and certified by government officials as being free from pollution and from danger of pollution. This standard is high, and there are many cities and smaller communities whose inhabitants are drinking water of a sanitary quality far below that which common carriers are permitted to serve.

In the case of vessels engaged in interstate traffic, the drinking water piping systems are carefully traced out and inspected at certain intervals by sanitary engineers of the Public Health Service in order to insure against cross-connections between the drinking water systems and the fire or wash water systems which frequently carry grossly polluted harbor water. Most vessels of the better class are now constructing entirely separate systems for drinking water and for water used for other purposes, and are also equipped with the finest sterilizing apparatus in order to render water safe if, in case of an emergency, it should be necessary to draw it from a doubtful source.

The ice which is used for cooling water in the drinking water tanks is now separated from the drinking water. This is a necessary safeguard because the ice, while being carried to the cooler and placed in it, is subject to contact with hands not altogether clean, and has been known to slip from the grasp and fall into unclean places, whence it has been recovered and placed in the tank without removal of the dirt.

Grade A pasteurized or boiled milk is a recent requirement for use on common carriers, and, in addition, certified milk as defined in the standards adopted by the American Association of Medical Milk Commissions may be served if the carrier elects.

The coach yards in which the cars are cleaned and replenished are under strict sanitary supervision by employees of the railroads assigned to that duty. In addition, the yards are inspected at intervals by Public Health Service officers, who coöperate with the railroad officials in devising and maintaining sanitary measures. While this work is carried on behind the scenes, so to speak, it is essential for purposes of health. Cars which are watered, replenished with food supplies, and renovated amid insanitary surroundings might readily be the means of conveying disease to their passengers.

Not all of the work carried on for the purpose of preventing the interstate spread of diseases is confined to activities related to railroad trains and vessels. The regulations provide, for example, that various foodstuffs which are especially subject to contamination shall not be transported from one State to another unless produced and handled in such a manner as not to render them liable to become agents for the interstate spread of disease.—*Bulletin U. S. P. H. S.*

INCARCERATION OF A MECKEL'S DIVERTICULUM IN A FEMORAL HERNIA

A Report of a Case with a Review of the Literature*

BY RICHARD H. SWEET, M.D.†

THE relative infrequency of Meckel's diverticulum, the rare occurrence of its descent into a hernial sac, and the extreme rarity of its incarceration within a femoral hernia have prompted me to report a case, and to present a brief review of all such cases previously reported in the literature.

The occurrence of femoral hernia relative to that of all other types of herniae is variously given by different authors, but averages about 4 per cent. The incidence of Meckel's diverticulum is generally agreed to be from 2 to 3 per cent. Balfour, however, found it present in only 15 out of 10,000 consecutive laparotomies.‡ Incarceration or strangulation of a Meckel's diverticulum in a femoral hernia is a rare and unusual occurrence.

CASE REPORT

HISTORY: T. C., a white Canadian janitor, aged 72 years, entered the hospital complaining of a painful swelling in the right groin. Two days before entry, after moving a piano across the floor, he noticed a small tender lump in his right groin. The mass could not be reduced by the patient or by the family doctor. There had been no vomiting. His bowels moved well.

PHYSICAL EXAMINATION: The patient was a rather well preserved man for his age. His heart and lungs were not, apparently, diseased. In Scarpa's triangle, on the right side, over the region of the femoral ring was a tender, irreducible, ovoid mass, about 4 cm. long. The over-lying skin showed no evidence of inflammation. There was no impulse on cough. The abdomen was not distended.

DIAGNOSIS: Incarcerated femoral hernia.

OPERATION: An oblique inguinal incision was made. The sac was femoral. On opening the sac, a small amount of bloody fluid escaped. Within was a dusky-colored incarcerated portion of intestine. On pulling this out, it was found to be a Meckel's diverticulum, about 10 cm. in length, attached to the ileum by a broad base and having a small mesentery of its own arising from that of the ileum. Because of the small size of the neck of the sac, and the danger of infecting the hernia wound, the diverticulum was resected through a right para-median abdominal incision. After this wound was closed, the hernia was repaired in the usual way.

COURSE: The patient made an uneventful recovery.

PATHOLOGICAL EXAMINATION: Grossly, there was injection and discoloration of the diverticulum. Microscopic examination showed a rather marked congestion, perivascular hemorrhagic extravasation, and marked oedema of the submucosa.

After a careful review of the literature, there were found only fourteen cases of incarceration or strangulation of Meckel's diverticulum in a femoral hernia, from the year 1700 to January 1929, excluding the case reported above. The

Meckel's diverticulum soon after removal.

following are brief summaries of all fourteen cases:

Case 1—1701—Tilling. Mémoires de Paris, 1701.
A woman died following the perforation of a strangulated femoral hernia. At autopsy, a Meckel's diverticulum was found in the sac.

Case 2—1765—Martin. Journal de Vendermoonde, Vol. 32, 1765.
A strangulated femoral hernia perforated through the skin; death followed. At autopsy a Meckel's diverticulum which extended 4 cm. into the femoral hernia sac was found. It was perforated and gangrenous.

Case 3—1834—Riecke. Ueber Darmanhangsbrüche. Berlin, 1834.
A woman was taken sick suddenly with pain and vomiting. A small irreducible femoral hernia found. At autopsy a Meckel's diverticulum 1½ inches long was disclosed, incarcerated in a femoral hernia sac.

Case 4—1874—Howse. Inspect. Nr. 13, 1874.
A man, 37 years old, was operated upon for incarcerated femoral hernia and died one day later. A mass of gangrenous omentum along with a Meckel's diverticulum were found in the sac.

Case 5—1884—Howse. Inspect. Nr. 418, 1884.
A woman, aged 49, was operated upon for incarcerated femoral hernia and died three days later. Autopsy showed a Meckel's diverticulum in the sac, forming a band, beneath which a loop of small intestine was caught.

*From the East Surgical Service of the Massachusetts General Hospital.

†Sweet—Resident Surgeon, Massachusetts General Hospital. For record and address of author see "This Week's Issue", page 1019.

‡Quoted from Ochsner—Nelson's Loose Leaf Surgery, Volume V.

Case 6—1885—Hofmokl. Klin. Zeit-und Streitfragen, Bd. 6, 1885.

A woman, 76 years of age, had a three-day-old incarcerated femoral hernia, which became strangulated and led to the spontaneous occurrence of a fecal fistula. A laparotomy was performed. A 3 cm. long perforated Meckel's diverticulum was found in a state of gangrene and incarcerated in the hernia sac. Resection. Recovery.

Case 7—1898—Mugnai. La Clinica chirurg., 1898.

A woman, aged 40, was operated on for a small incarcerated femoral hernia and a Meckel's diverticulum with a gangrenous tip was found within the sac.

Case 8—1903—Hilgenreiner H. Beiti, z. Klin. Chir. 40:99-135, 1903.

A 74 year old woman had had a femoral hernia six months which, three days before entry, became irreducible and painful. The hernia finally perforated through the skin and formed a fecal fistula. At operation a 3 1/3 inch strangulated, gangrenous, perforated Meckel's diverticulum, which had apparently suffered torsion, was found. Recovery.

Case 9—1905—Brin, H. Semaine médicale, 25:175, 1905.

A man 65 years old was operated upon for a recently incarcerated femoral hernia. A Meckel's diverticulum 8 cm. long and adherent in the sac was found. Resection. Recovery.

Case 10—1913—Burianek, B. Casop. lék. cesk., v. Praze, 52:1395, 1913.

A patient with a right femoral hernia, in which, at operation, an incarcerated Meckel's diverticulum was discovered.

Case 11—1919—Harf, A. Deutsche med. Wchnschr. 45:881, 1919.

A femoral hernia, in which was found an incarcerated Meckel's diverticulum.

Case 12—1922—Ludbrook, S. L. Brit. Surg. 10:297-298, 1922.

A man, aged 52, was operated upon for an irreducible femoral hernia. At operation a Meckel's diverticulum was found adherent in the sac. It was freed and removed through a right pararectus incision, after which the hernia was repaired.

Case 13—1924—Littler, R. M. Brit. Med. Journ. 1:517-518, 1924.

A woman, aged 52, had a painful mass in the right groin. Meckel's diverticulum was found adherent in the sac of a femoral hernia. The attachment of the diverticulum to the intestine was gangrenous and required a resection of that portion of the bowel with a lateral anastomosis. Hernia repaired. Slight sepsis of wound.

Case 14—1926—Harrington, S. W. S. Clin. No. Amer. 6:1185-1193. 1926.

A woman, aged 55, was operated upon for a painful right femoral hernia. A strangulated, gangrenous Meckel's diverticulum was found and excised with a portion of the bowel.

(Note: The first nine references appear in an exhaustive review of Meckel's diverticulum in all types of herniae by Fritz Pabst. Ein Meckel'sches Divertikel in einer Hernia interparietalis inguinalis incarcerata dextra. (Beitr. Z. klin. Chir., 1910, 69:646-692.)

ENDEMIC GOITER

The results of six years' study of endemic goiter, also known as simple goiter, by the United States Public Health Service are incorporated in a report recently issued. The conclusion is reached that this form of goiter, which is present to a considerable extent in certain parts of the United States, is simple in name only, for the causative factors concerned in its production are undoubtedly numerous, even complex. This bulletin, which contains a foreword by Dr. David Marine, eminent American authority on goiter, will prove of interest to physicians, public health officials, nurses, educators and others concerned with the prevention and treatment of goiter.

The goiter studies of the Public Health Service, conducted from headquarters located in Cincinnati, Ohio, were directed along three principal lines:

1. Studies of the distribution of simple goiter.
2. Studies of the causes and effects of simple goiter.
3. Dissemination of authentic information.

Thyroid surveys were made by the same officers of the Public Health Service in the States of Colorado, Connecticut, Massachusetts, Oregon, Tennessee, South Carolina, and in the City of Cincinnati, Ohio. As a result of these investigations it has been possible to distinguish variations in goiter incidence within individual States and to indicate the places in which goiter prophylaxis is required. Graphic representations of characteristic incidence curves are shown.

The findings of several investigations, having for their purpose the determination of the causes and effects of simple goiter, are also set forth in the report. Thus, efforts were made to learn whether communicable diseases, routine physical exercise or potential foci of infection, such as may exist in decayed teeth and diseased tonsils, are responsible for endemic goiter. The effects of endemic goiter upon intelligence, physical growth and school attendance are indicated. Interesting accounts of the gross and microscopic anatomy, as well as the instructions for making thyroid surveys, with suggestions for interpreting and utilizing the information gathered, are a feature of the report.

The cause of simple goiter is considered in detail. There is also a critical consideration of the various prophylactic measures and their relative value. The importance of iodine prophylaxis during pregnancy has received particular emphasis. While suggestions are given for the appropriate treatment of endemic goiter the self administration of iodine, either for prophylaxis or treatment, is condemned.

The value of the report is enhanced by photographs of a number of thyroid-normal and thyroid-enlarged individuals, both in profile and full front view. Other illustrations show the topographic relations of the thyroid gland.—*Bulletin U. S. P. H. S.*

NEW ENGLAND MEDICAL COUNCIL

THE RELATION OF CLINICS AND HEALTH ASSOCIATIONS TO THE MEDICAL PROFESSION*

BY GEORGE BLUMER, M.D.†

INTRODUCTION

IT should be quite apparent to anyone who has been practicing medicine for over a generation that a gradual change in the status of the physician is coming about and that it is associated with certain factors, of which the more important may be enumerated as follows:

1. *Factors outside the profession.*

a. The increasing use of the hospital, especially by patients of moderate means as contrasted with the very poor and the very rich.

b. The increasing development of free and part-pay clinics.

c. Certain developments of nursing, particularly public health nursing, school nursing and factory nursing, and pari passu the development of special clinics, prenatal, infant welfare, school, tuberculosis, etc.

d. The passage of workmen's compensation acts in many states.

e. The lessened purchasing power of the dollar with the accompanying increase in hospital and medical costs.

f. The increased activities of health departments.

2. *Factors within the profession.*

a. The increased complexity and consequent increased cost of medical service.

b. The urbanization of the medical profession.

c. The increase in specialization as contrasted with the older type of family practice.

It goes without saying that changes as sweeping as these cannot be effected without considerable adjustment both on the part of the public and of the medical profession and I take it that the purpose of the reports to be presented today is to attempt to define the present status of that adjustment and particularly to endeavor to point out where there is still maladjustment rather than satisfactory adjustment.

This report is based partly on experience gained as the Chairman of the Committee on Public and Professional Relations of the New Haven Medical Association and partly on reports kindly furnished by numerous colleagues scattered through the state of Connecticut. It follows, therefore, that it covers conditions in the state of Connecticut, though no doubt very similar conditions exist in the other industrial sections of New England.

*Read before the New England Medical Council, February 19, 1930.

†Blumer—David P. Smith Clinical Professor of Medicine, Yale University. For record and address of author see "This Week's Issue", page 1019.

Before taking up in detail the various aspects of the subject I may say that the writer and his colleagues on the Committee of the New Haven Medical Association have sensed a very definite feeling of unrest, not to say hypersensitiveness, in the ranks of the profession. This is not so apparent among the older men, at least in the large cities, for they are usually well established and earning a reasonable competency. As a result they usually show a good deal of indifference to the existing state of affairs, though in the smaller towns even the older and better established practitioners are frequently aware that things are not as they would wish. It is more especially among the younger men, who are struggling to get a toe-hold on the lower rungs of the ladder of success, that considerable dissatisfaction exists.

THE HOSPITAL SITUATION

As contrasted with the situation of a generation ago the chief changes in the hospital situation are (1) the great increase in the number and variety of hospitals, (2) the increased proportion of open hospitals, and (3) the great increase in hospital costs to the patient. In those places, usually large cities, where closed hospitals are still in operation, there is always a feeling of antagonism between the outs and the ins and, so long as human nature remains as it is, it is difficult to see how this can be completely removed though there is no doubt that it can be lessened by fairness and tact on the part of the administrative and medical staffs. Even the open hospitals are not without their difficulties. Certain individuals through professional ability or personal qualities which commend them to the hospital authorities are apt to become dominant figures in the organization and this of itself may lead to charges of favoritism which are not always completely unfounded. In the smaller towns where practically the entire medical population uses the hospital these difficulties are apt to be less pressing, but even there they exist to some extent.

The antagonism between those hospitals which maintain wards under a permanent staff and the general run of the outside profession could, I believe, be reduced to the minimum if the hospitals acted on the principle that their services were purely consultatory and treated the outside physician precisely as he would be treated by an outside consultant. This would involve considerable expense to the hospital for secretarial services, for it would require reports to the physician sending in a patient which

would be sent out on the discharge of that patient and would cover such questions as diagnosis, laboratory and x-ray findings, treatment in the hospital, and suggestions as to future management of the case. At the present time there is a tendency for those hospitals that maintain ambulatory clinics to refer the patient on discharge to their own clinic. The medical staffs are no doubt actuated by the highest motives, for it is a natural desire to wish to follow up their patients, but in many cases an injustice is done to the referring physician, particularly when patients are able to pay a fee, however small. Furthermore the matter is one capable of an adjustment satisfactory to both the hospital staff and the outside doctor for there is no reason why such patients should not by mutual agreement be referred back to the hospital clinic from time to time.

There is another aspect of the hospital situation which works hardship on the outside practitioner and that is the increasing tendency of patients who should by rights be treated in the public wards to engage private rooms for which they cannot afford to pay. The principle underlying this situation was well described by Irving Bacheller in a novel entitled "Keeping Up With Lizzie". Because Willie Jones was treated in the private ward the Smiths feel that their boy Johnny should have like treatment even though their bank account is most conspicuously on the red ink side. As a consequence the hospital, a business organization, collects its fees, sometimes on the installment plan, while the doctor, who has a right to expect payment from a private ward patient, is left in the lurch. It is difficult to see how this situation can be met unless the hospitals can provide cheaper private room service or unless they collect the doctor's fee or so frame their regulations that only patients able to properly pay for private rooms are allowed to occupy them.

THE CLINICS

As noted above the past generation has seen a great increase in the number of clinics and in some places the development of pay clinics. Regarding the usual free clinic it may be said that there is still a feeling among many practitioners that sufficient care is not exercised in excluding those who are able to pay, but it is very doubtful whether such patients constitute more than a small minority of those treated. Pay clinics can hardly be considered a detriment to the general profession if they are ethically conducted on the basis of a consultation service. If, however, the patients who attend them are treated as private patients and carried through not only diagnostic but therapeutic procedure it is questionable whether they cannot be regarded as an unfair form of competition.

THE INCREASED ACTIVITIES OF HEALTH DEPARTMENTS

There can be no question that in the main the increased activities of health departments have been of the greatest benefit to the medical profession and to the public as they have increased both the diagnostic and therapeutic range of the general practitioner. In our experience the routine administration of toxin-antitoxin or of vaccine virus has been the chief cause of friction with the general practitioner. The usual complaint has been that health departments have failed to discriminate between those children whose parents were able to pay a fee and those whose parents could not afford to do this. In New Haven the health authorities do not deny this allegation and the Health Officer has offered to turn the toxin-antitoxin work over to the general practitioners. The local medical committee has found, however, that the number of general practitioners who are anxious to do this work is comparatively small and has felt that it is to the best interests of the public to leave these procedures in the hands of the experienced employees of the Health Department even though some injustice is done to a few practitioners thereby. The Committee felt that if the administration of toxin-antitoxin were left in the hands of the general practitioners of the city not nearly so many children would be inoculated and protected as is the case under the present situation.

In some of the smaller towns in which the Health Department employs no salaried physicians the situation is different. Local physicians are asked to volunteer for this work and are expected to give their services free when a small fee, such as fifty cents per child, would make the work financially worth while and would not be a hardship for most of the families involved. It would seem that there should be some remuneration in such circumstances for the procedures are routine and after a few cases have been observed the physician gains nothing in a professional way as he would in attending gratis a clinic where he would see all sorts of diseases and enlarge his experience. These remarks would apply equally well to vaccination against smallpox, which except in an epidemic is now done to a considerable extent by the general practitioner.

THE NURSING SITUATION

There is no question that nurses are now, in many situations, performing work formerly done by the medical profession and under some conditions, as in factories, they may do so at times with distinct risk to the patient. A nurse, no matter how well trained she may be, cannot be expected to detect obscure fractures or perforated peptic ulcers and we have record that such grave conditions have been overlooked where medical supervision was lacking. It is an open question whether, as one correspondent

suggests, many nurses in industrial work could not be prosecuted under existing medical practice acts for the illegal practice of medicine. On the other hand it is true that from its very inception trained nursing has relieved the physicians of some routine procedures such as taking and recording the temperature, pulse and respiration, the observation of untoward symptoms and signs, etc. The medical profession has never regarded these activities as anything but beneficent. Many physicians now employ in their offices, nurses who are trained to examine urine and blood, to take blood pressures, to manipulate basal metabolism apparatus and to do many things which save the physician himself from burdensome routine and free his time for more important work. It is evident then that the question with regard to nursing is not *whether* the nurse shall be allowed to do work formerly carried out by the physician but how much of such work she shall be allowed to do without medical supervision. The question of *supervision* is the crux of the situation, for it is clear that no nurse should be placed in a position where she can be called on to pass on questions of diagnosis or treatment except in such simple matters as minor injuries or trivial ailments. It is doubtful whether fixed regulations can be framed which would rigidly define the nurse's duties and it is questionable whether such a procedure would be desirable. Some leeway must be allowed and local conditions should determine the limitations of such work, these limitations to be decided on by conferences between the physicians and nurses affected or their representatives.

FACTORY MEDICINE

In the last ten or fifteen years, largely as a result of the enactment of workmen's compensation acts, many industrial concerns have installed plants for the care of their injured or sick employees which vary in extent from a single emergency room to a complete hospital. Many of the larger plants employ full-time physicians while even the smaller ones commonly have full-time nurses. In Connecticut a few very large concerns maintain elaborate layouts where full-time physicians and nurses treat not only employees but to some extent their families and even remote relatives. In the smaller plants the medical work may be in charge of a part-time man on a salary or the employees may be allowed to call their own physician who receives his usual fee. Under the first plan there is obviously unfair competition with the local profession outside the factory as the factory doctor through contacts made with employees is treating individuals who should have gone to their own family physician. The second and third plans seem to have worked fairly well in Connecticut, though not perfectly by any means. The treatment of compensation cases is a constant source of friction in Connecticut. The employment and payment of the physicians is largely in the hands of insurance companies and in many places the injured employee is not given freedom of choice as to his physician. It needs no great knowledge of human nature to deduce that the insurance companies will naturally pick out physicians who tend to uphold their point of view and it is obvious that any such plan results in the employment of only a small proportion of the profession in this work, with the result that practice which formerly was widely scattered among many family doctors is now concentrated in the hands of a few men. The one redeeming feature of such a plan is that the physician gets paid for work which in former times was often largely unpaid, though it may be added that at times the views of insurance companies as to adequate medical compensation are somewhat niggardly.

CONCLUSION

The writer realizes that the subject has been presented in a very sketchy manner. The purpose of the report is not to exhaust either the subject or the audience, but to stimulate discussion and invite suggestions for the solution of the difficulties. It is quite clear of course that all of the different phases of the subject which have been presented are evidence of the fact that there is a gradual tendency to socialize medicine in one way or another. The percentage of medical men who are engaged in some form of work in which they are employed by others at a fixed remuneration as contrasted with the percentage who are earning their living by independent practice is constantly becoming larger. This question is intimately associated with the increased cost to the public of medical care. Indeed, most of the pressure for the socialization of medicine comes from the public and is opposed, if not resented, by many of the profession. The economic aspect of the situation is now under study by a special committee and it is doubtful whether any very intelligent action can be taken to remedy many of the problems presented until we obtain more accurate information regarding the economic aspects of the situation. It has always seemed to the writer that the socialization of medicine would be a calamity, that it would remove the spur of competition, that it would tend towards routine and the bureaucratic frame of mind, and that it would discourage original research. The practice of medicine has always been a strongly individualistic matter and always must be on account of the powerful psychic element which enters into it.

MASSACHUSETTS TUBERCULOSIS LEAGUE

THE PRESIDENT'S ADDRESS*

BY FREDERICK T. LORD, M.D.†

THIS occasion marks the conclusion of the sixteenth year of the activities of the State League in the prevention and control of tuberculosis.

The League Staff personnel remains the same and much credit is due our Executive Secretary and our Educational Secretary for the efficient and satisfactory manner in which our activities have been conducted. They will give you a detailed account of the work in their respective fields. There are certain matters to which I should like to refer briefly as a report of progress.

As you already know the Christmas Seal Sale of 1929 surpassed that of 1928 by about $4,000. With the aid of a grant of $1,000 from the National Tuberculosis Association an investigation of the problem of high school health education has been inaugurated in Lynn. This study is to continue for a three-year period and will be reported by Miss Latimer. At the suggestions of the League, a tuberculosis and health survey was made of the City of Holyoke by Professor Murray P. Horwood of the Massachusetts Institute of Technology. The League has continued its leadership in the High School Health Playwriting Contest in New England. At the request of the Southern Middlesex County Health Association the League organized a survey of that Association and made a report with recommendations for the improvement and enlargement of its program. Courses for health education teachers have been organized and conducted in seven parts of the Commonwealth in conjunction with our Affiliated Organizations. A special course at Boston University was organized by our Educational Secretary.

The League has taken an active part in Massachusetts in the Early Diagnosis Campaign, utilizing the literature produced by the National Tuberculosis Association, motion pictures, radio and clinic facilities of the State Department of Public Health and local health departments. Valuable service has been rendered by members of the League Staff to the affiliated organizations in connection with their programs of work, summer health camps, health education activities, finances and reorganization.

I am glad to be able to report that the finances of the League are in excellent condition. We are operating within our budget and have added something to the sinking fund for emergencies.

It is a pleasure also to report that the relations of the League to the National Tuberculosis Association, the Department of Public Health of Massachusetts and other New England States have continued on a friendly and mutually helpful basis.

In addition, I should like to call your attention to certain matters pertaining to the problem of tuberculosis in the State.

In the Commonwealth of Massachusetts there has been an encouraging decline in the mortality from pulmonary tuberculosis in the past 73 years from 395 to 58 deaths per 100,000 living. In general, a similarly diminishing death rate obtains elsewhere in the United States. Every effort should be made to hasten the time, which seems not far distant, when the disease will have practically disappeared.

Massachusetts is fortunate in the establishment of a Ten Year Program, inaugurated in 1924 by the State Department of Public Health, for the prevention of tuberculosis. This work was for the first five years under the charge of Dr. Henry D. Chadwick and has since been carried on by Dr. Paul Wakefield. The results, thus far, comprise valuable data on the frequency of tuberculosis among children and the institution of early supervision and treatment of those found to have the disease.

Infection is readily determined by skin tests with tuberculin. Reactions are common. They usually indicate the presence of latent and inactive local infection with consequent relative immunity to the tubercle bacillus.

Regarding the *prevalence of infection* it was demonstrated, 20 years ago, that almost universal infection with tubercle bacilli occurred by the time children reached the fourteenth year. Among about 100,000 children examined in Massachusetts, under the Ten Year Program, however, only 28% are *now* found to be infected at all ages up to 15. The figures suggest a significant diminution of tuberculous infection during childhood corresponding to the decline in mortality in recent years.

In the investigation of children for *tuberculous* disease much greater reliance is placed on x-ray than on physical examination. The most satisfactory method, therefore, is to do skin tests with tuberculin as a routine and x-ray the reactors.

Tuberculosis at the root of the lung is thus demonstrated in 2.5% of the children examined. Pulmonary tuberculosis of the adult type is found in 0.1 of 1% at the age of 14 to 15 and is two and one-half times as common among girls as boys. The frequency of pulmonary tuberculosis in the population at large in the

*Read at Annual Meeting, April 17, 1930.

†Lord—Clinical Professor of Medicine, Harvard Medical School. For record and address of author see "This Week's Issue", page 1019.

State is uncertain. From imperfect data available Dr. H. L. Lombard estimates that there may be about 25,000 persons with the disease. As there are only about 4000 beds for the care of such patients it is obvious that a larger number should be provided.

About twice the number of children become infected when there is a history of exposure to a patient with pulmonary tuberculosis. It has long been known that intimate family exposure is far more serious early than later in life and that a large proportion of infants exposed to tuberculous parents develop manifest and fatal disease. Children exposed after the age of four are in much less danger.

Contact is the chief factor in causing infection. Other sources are of less importance. Among them infection from cattle is a matter of chief concern as a cause of disease elsewhere than in the lung. In this state it is estimated that about 25% of untested cattle are tuberculous. About 70% of the milk supply is at present pasteurized.

Concerning the diagnosis, those who have a persistent cough, with or without fever, night sweats, loss of appetite and weight, an attack of pleurisy, or blood spitting, should consult a physician at once. In addition to a physical examination, he will want your sputum examined and an x-ray of the chest. There are five cardinal factors to be considered in making a probable diagnosis:—(1) An appropriate sequence and grouping of symptoms, (2) pleurisy, unaccompanied by other significant symptoms and hence termed primary, (3) Blood-spitting out of a clear sky or accompanied only by cough and scanty expectoration, (4) physical signs, and (5) x-ray findings. The presence of tubercle bacilli in the sputum is practically conclusive.

Pulmonary tuberculosis is largely preventable. The most important single factor in prevention is an early diagnosis. This limits the danger by permitting personal instruction in measures for the protection of others, leads to the prompt exclusion of the tuberculous from occupations in which their employment is a danger to others and greatly increases the chance of recovery by the adoption in time of appropriate treatment.

To prevent the development of manifest disease, children with latent tuberculosis should be treated in open-air schools, or preventoria, given extra rest hours and abundant food, and not allowed to take strenuous exercise.

The advantage to the patient of *early diagnosis* should be more widely appreciated and all contacts should be examined when the disease is discovered in a member of the family. The unusual opportunity offered as part of the Ten Year Program, for a physical and x-ray examination of school children, without expense, in practically all parts of the State should be welcomed by parents. Employers and wage earners should enthusiastically support the survey conducted by the State Department of Health, assisted by the Massachusetts Tuberculosis League and the Boston Tuberculosis Association.

A second important factor in prevention is the *isolation* and *segregation* of patients with tubercle bacilli in the sputum. If cared for at home the patient should occupy a room alone and observe precautions for the protection of others. If the home conditions are unsuitable, the patient should be sent to an institution. Infants and children should not be allowed to live in the same house with a person with tubercle bacilli in the sputum. The danger, extreme under one year, diminishes as the child advances in age. A tuberculous mother should not nurse her infant. The nursery should be scrupulously clean. Special care should be exercised not to engage tuberculous domestic servants, nursery maids and governesses. Teachers and janitors with tuberculosis should not be permitted in schools.

A third factor in prevention is the *elimination of the danger from cattle* by the eradication of tuberculosis from the herds and the distribution only of clean and pasteurized milk. Pasteurization is a safeguard against tuberculosis and certain other communicable diseases. The pasteurization of unsafe milk should be compulsory. Enforcement of this regulation in New York City was followed by a notable fall in the rate of reduction of non-pulmonary forms of tuberculosis.

Rest is the most important factor *in treatment*. There has been a constantly increasing tendency to prescribe longer and more complete rest and it is safer to err on the side of too long than too short a period of rest. The patient should be absolutely at rest in bed as long as there are any indications of an active tuberculous process and should continue at rest for about a month after all such manifestations have subsided. But during this latter period the restrictions may be somewhat relaxed. Abundant food, fresh air and sunlight are also important. Successful treatment depends very largely on the period in the course of the disease when the diagnosis is made, as indicated by the slogan "Early discovery, early recovery".

Treatment in an institution is the method of choice unless equal or better facilities can be provided at home. It offers the advantage of supervision and instruction by physicians especially versed in tuberculosis, provides suitable surroundings for an arrest of the disease and at once removes a source of danger to the family and the community. Owing to lack of available beds, unfortunately, not all patients with pulmonary tuberculosis can be cared for in institutions. Climate, alone, has not been shown to be of value in treatment. A comparison of the results in various places, differing widely in climatic conditions, indicates that, other things

being equal, the outlook is as good in one place as another. In the absence of any reliable indications as to the superiority of one climate over another the selection should be based chiefly on the opportunity for oversight by an experienced physician with good judgment in matters pertaining to tuberculosis.

Recognition of the importance of rest has led to rapid progress in the application of special methods of treatment in selected cases. Their use should be deferred until the ordinary rest treatment has been tried for a reasonable period and proved unsuccessful. These special measures, known as *collapse therapy*, immobilize the affected lung to a greater or less extent and comprise among others, the injection of air into the pleural sac, paralysis of one-half of the diaphragm by operation on the phrenic nerve or the partial collapse of the chest wall on one side by removal of parts of the ribs. Tuberculosis confined to one lung is most suitable for these methods of treatment. Remarkable results have been obtained by these means in the more advanced types of the disease previously regarded as hopeless.

Finally let me emphasize the importance of an early diagnosis of pulmonary tuberculosis, in the elimination of contact infection and in securing clean milk from clean cattle, and let me say that owing to remarkable advances in surgical treatment there is hope in certain patients for an arrest of the disease even though in its more advanced stages.

ANNUAL REPORT OF THE EXECUTIVE SECRETARY

BY FRANK KIERNAN, A.B.*

APRIL 17, 1930

ONE of our Vice-Presidents in questioning your Executive Secretary one time on the progress of the work in a certain County said, "Do you think, Mr. Kiernan, that as a result of the founding of this organization there is one less tubercle bacillus in that County than there used to be?" The Vice-President's question may be appropriately applied to the League and its Affiliated Organizations as we look back over the past year and face another year.

From my personal observation of the work of the Affiliated Organizations and of the League itself I am pleased to report that I believe a very substantial contribution to the prevention of tuberculosis in the past year has been made by the League and its Affiliated Organizations.

From Berkshire County to Nantucket as a result of the Christmas Seal Sale and other funds raised through memberships, special solicitations, legacies and unsolicited gifts the twenty-eight Affiliated Organizations and the League expended during the past year approximately $275,000 in the Commonwealth. What are the types of work for which this money has been spent? Let me give you a few samples taken at random in different parts of Massachusetts.

In Hampden County an inventory of the health of the school children was completed by our Hampden County Association acting in conjunction with the State Department of Public Health.

In Boston, placement work for discharged sanatorium patients, the Prendergast Preventorium, the work among the colored population of this City, important health education work in the schools and the very extensive program of adult health education through a number of channels was continued.

Clinics in the rural sections of their Counties were conducted by the Southern Worcester, Hampshire and Franklin County Health Associations.

Eight or more weeks of scientific care and supervision was given approximately 2,500 children at our summer health camps.

A concerted drive for the examination of contact cases was made by a number of Affiliated Organizations of the League.

More than half of our Organizations participated in the extremely important Campaign for the arousing of interest in early diagnosis of tuberculosis sponsored by the National Tuberculosis Association.

Examinations and revisions of their programs of work to meet changing community needs have been made by several of our local associations.

School nursing work in rural areas by arrangement between our County Associations and the local School Committees has been carried on by several of the Organizations.

The institutional care and scientific treatment of patients has been directly aided through the activities of our Associations in New Bedford and Barnstable County.

This is but a brief and sketchy review of the activities of some of our Organizations. From this I think it fair to say that unquestionably the work of tuberculosis prevention has been materially set forward during the past year as a result of our work.

Your Executive Secretary has taken the usual part in the work of the League and assisting the Affiliated Organizations.

During the year, thanks to the coöperation of the League Staff, we lived well within the budget appropriations authorized by the Direc-

*Kiernan—For record and address of author see "This Week's Issue", page 1019.

tors. We also added to our emergency fund $1,000. We helped a number of the Affiliated Organizations by loans of $500 and $1,000 for periods of several months without interest to assist them in times of necessity.

The League Office has been continued in the Little Building with an increasing number of visitors both from our own State and other States. The staff has continued without change.

The customary group meetings were conducted for Executive Secretaries to discuss Seal Sale plans and problems of summer health camps. These meetings were held in Boston and Worcester in coöperation with the local associations.

During the year we added a new service through assisting some of the Affiliated Organizations reorganize their financial records. We are prepared to assist more local associations desiring to install improved systems of bookkeeping.

Dr. Lord has referred to the surveys made in Holyoke and in Southern Middlesex County. Your Executive Secretary assisted in both of these undertakings.

We are now engaged in assisting our organizations to secure personnel for their summer health camps which open July 1.

The New England Playwriting Contest for High Schools is now approaching its climax in the school year. Your Executive Secretary has been responsible for organizing and supervising this Contest.

Looking over the situation from Berkshire County to Nantucket I can report with satisfaction that harmony and constructive efforts are the dominant notes in the tuberculosis work in Massachusetts. Both with the twenty-eight Affiliated Organizations themselves and in their relations to the League and the League to the National Association the spirit of harmony and coöperation continues. We are not at times without our misgivings as to whether we are devoting our energies in the best ways for the prevention of tuberculosis in Massachusetts. Without disturbing existing plans of work I think that both the League itself and many of the Affiliated Organizations would profit by a serious examination of their present programs in the light of the changing needs of the community. This thought is commended to both the Directors and the Executives of our Affiliated Organizations.

I cannot bring this report to a close without thanking the Executive Committee and the Directors for their kindness and generosity in making it possible for me to make a trip to the South on the recommendation of my physician. I shall always be grateful for this.

I wish to say also on behalf of the League Staff that we have received during the past year continued and gratifying coöperation from all the Affiliated Organizations and we hope that we have measured up to our opportunities in rendering service to all according to our abilities.

ANNUAL REPORT OF THE EDUCATIONAL SECRETARY

BY JEAN V. LATIMER, B.S.*

APRIL 17, 1930

IT is true that tuberculosis has been remarkably reduced during the past half-century. This fact in itself is of significance to socially-minded citizens who realize that the well-being of mankind is more important than any other aspect of civilization. The way in which this reduction has taken place is also well worth thinking about, since in the campaign, education has played the leading rôle. However, the fight is by no means finished and here we come more directly to the schoolroom, since childhood tuberculosis is now the most important problem of tuberculosis prevention. By means of scientific tests, we have now learned that a large proportion of the adult population has at some time had a tuberculous infection. All authorities agree that among the older school children at least half in most communities are positively tuberculous, and in some places, the figure is much higher. As this audience knows, a positive tuberculin test does not mean that the child is ill. In most cases such a child has not, and never has had, and perhaps never will have, the active disease which we call tuberculosis. In its lungs or other organs, there might be slight development of tuberculosis which has not been sufficient to cause any trouble and which is now completely healed. Most grown people belong to this class. However, the work of Dr. Opie has shown that there is another large group of children of particular importance. They are apparently quite well and strong, and may show no signs of disease, which even a physician with a stethoscope can discover, but x-ray pictures of their lungs will show that tuberculosis is slowly but gradually progressing there. Year by year it becomes more extensive, until at last the child is actively sick. It is the children of this group who at present are the most important problem of tuberculosis prevention in our schools.

Especially are public health authorities concerned about tuberculosis among girls. The evidence on this point is given by Dr. S. A. Knopf of New York in the *Journal of the American Medical Association* of February 1928. He has shown that the death rate from tuberculosis is not only twice as high between the ages of fifteen and nineteen among girls as among boys, but also that the rate is falling only half as fast among the girls as among the boys.

That there is potential tuberculosis to be found among the adolescent group in our state has been recently demonstrated by the results the League has obtained by x-raying 519 stu-

*Latimer—For record and address of author see "This Week's Issue", page 1019.

dents in the freshman class of a high school in one of the large industrial cities in the state. It is our plan to reëxamine the same group three years hence, and to observe the developmental changes which have taken place. This research is to become a part of a national study which is now being made on adolescent tuberculosis. We are, in the meanwhile, making an intensive case study of the present findings.

Of course, the ideal way of dealing with this entire problem would be to make a tuberculin test of all school children and then to x-ray all those with positive reactions. The taking of the x-ray pictures is costly, however, and it is often difficult to get the consent of parents for a complete physical examination. It will be some time in the distant future before such complete protection is generally afforded.

Meanwhile, what can we do about it? In every school there are boys and girls in whose lungs this growth of latent tuberculosis is going on unsuspected, but deadly in its ultimate effects. Yet, we are by no means helpless in the matter. We could accomplish results faster if we knew which children needed immediate attention; but, fortunately, the control of tuberculosis depends to a great extent on the practices of healthy living, which are universally desirable. There are no specific medicines and as yet no vaccines for the disease. Our medicines and vaccines for tuberculosis are proper food, fresh air, outdoor exercise and adequate rest. In other words—Health Education.

Again this year, as in the past, the League's contribution has been largely in the field of school health education. We have sought to assist in discovering effective ways and means whereby health education can be incorporated into the field of general education, and to show public appreciation and understanding of health education in the school system. We have done this by:

General health publicity—publications.
Research—high school study.
Professional courses and scholarships to encourage specific training on the part of school administrators, teachers and school nurses.
Advisory service through correspondence, conference and field work.

Though it is still more of a theory than a practice, the emphasis at least in the elementary school is now being placed on the entire development of the child. Because of this new emphasis, private and public health agencies have been able to arouse attention and create real interest—but even yet, we are still in a more or less loosely organized state in the teaching of health. There is still much work ahead for both the official and voluntary agencies for assisting the elementary schools throughout the state for a more adequate type of health instruction and habit training. Along this line, it is gratifying to report an increased activity on the part of several of our local public health associations for a more professional type of health education service to principals, teachers and school nurses in the local communities. It has been the privilege of the Educational Secretary to work with and through these affiliated organizations. Perhaps the attention of our Board of Directors should be called to the fact that several associations are now employing a full-time health education worker.

Our monthly bulletin, which was formerly called, "The Health Crusader" has been changed in name to "Teaching Health to Children". In this, we attempt to visualize health—to make health facts relating to child life interesting, objective and visual. Each month our idea is to present more or less pictorially one definite topic along the line of health education and to offer concrete suggestions not only as to materials, but procedures as to how health should be taught to children in the various grades. The January issue was given over to the topic of "sleep". The February number was concerned with "fresh air and sunshine", in connection with which a large number of temperature charts were distributed. Our more recent ones have been on "the correction of physical defects" and "the celebration of May Day as Child Health Day".

The League is continuing to maintain a health education information service and lending library, although we are in some respects decentralizing this service as our local associations are able to assume such responsibilities. Nevertheless, we still remain the clearing-house not only for materials, but also as to methods for handling such a service. One of our most productive projects this past year was the display of exhibits at the various county teachers' conventions during the fall months. Not only have these served the purpose of general health publicity, but as opportunities for people throughout the state to know more intimately of the newer materials which are available through the League. Also, a large phase of the work has been in the assistance rendered student and practice teachers in the normal and physical education schools in the state.

Especially is there need of calling the attention of the community and the school to the necessity for adolescent hygiene. The high school at present represents the neglected field in health education, and in the state, as a whole, less attention has been given to the health of the high school student, and less is being done in the way of health teaching and inculcating standards of healthful behavior in the secondary than in the elementary schools. Since there is yet no well-formulated and worked out plan for the high school, the League in coöperation with the State Department of Public Health is now conducting a three-year experiment in health education in the Lynn senior high schools—a report concerning which will be given at a later date.

Again, the program of the League has been

extended by planning a course, "The Teaching of Health in the Junior High School". This course is now being given during the second semester in coöperation with the School of Education, Boston University, in connection with which the League has awarded fifteen tuition scholarships—besides three additional ones offered by our local associations. The course is made up of sixty-three representative superintendents, principals, supervisors, teachers and school nurses, who come from within a radius of seventy miles of Boston. The personnel of the class also includes fifteen students who are working for graduate credit. In addition, through this course, we have been able to establish contacts with several teachers of continuation and trade schools, and assistance is now being given them in preparing a health education program for their especial needs.

Follow-up work with the teachers who have been given League scholarships in past years would lead us to feel that specific training is one of the most important phases of our work. It is gratifying to report that one of the students who held a League scholarship in the summer of 1928 has been recently appointed supervisor of health education in the Boston public schools.

Next fall it is our plan to assist in establishing similar health education courses in the Connecticut valley as are now being given to teachers in the vicinity of Boston.

During the past year in order that we might call the attention of the high school principals to the lack of control of tuberculosis among adolescents, a copy of the pamphlet, "Tuberculosis in its Relation to Public Health", was sent to every junior and senior high school principal in the state, with a personal letter calling attention to the problem, and asking coöperation for including this topic in the high school curriculum. In answer to this appeal, many letters were received, and several thousand copies of the pamphlet were placed in the hands of the high school principals with the definite understanding that they be used as a part of the science instruction.

In this connection, the League considers that one of the greatest needs at present is for the extension of medical inspection into the high school field, particularly to the continuation schools which are made up chiefly of under-privileged children who are soon to drift into industry.

We cannot have a well-rounded program for the protection of our children by having physical examinations and a follow-up program for the correction of physical defects solely for the younger children. A survey in this state of certain school systems where a preventive program has been in operation for a period of some years has revealed the fact that about the same per cent. of physical defects are to be found throughout the grades. This would seem to indicate that as the child grows older certain physical defects decrease, while newer types appear. In one high school, it has been found that only five per cent. of the boys and girls were without physical defects. In other words, ninety-five per cent. are physically imperfect, with the average of three defects to the individual. All of which would lead us to believe that the child should be watched throughout the entire period of his development.

In all our work close coöperation has existed with the Division of Child Hygiene of the State Department of Public Health. This has been evidenced not only in the joint experiment now being developed in the high school field, but in other activities which the League is promoting through its affiliated associations. During the past year, the Division of Child Hygiene and the League have given several successful courses in health instruction for the elementary teachers and school nurses in several counties of the state.

A part of the Educational Secretary's time has been spent in giving detailed supervision to several of our rural school systems. The gratifying response which has been received from such work would lead us to believe that possibly an important phase of the future work of our county public health organizations in Massachusetts will lie in the type of professional service which they are able to render to smaller towns and rural communities, which are not reached by any other forms of supervision. Especially have we an opportunity for rendering service and guidance to the school and public health nurses in these small places. Moreover, the fact that we are organized not only on the county, but on the small town basis gives us a democratic form of service which is most gratifying to the people themselves.

While our work for the past year has been primarily confined to the schools, we have by no means lost sight of the fact that there is still work to be done in educating the general public to know, and to believe in the possibilities of preventive health work, and for this reason a part of the League's program has been to assist local branches in meeting with representative groups of club women, Parent-Teacher organizations, Rotary Clubs, etc. We must realize that there is still need for integrating the health of the community, the home and the individual, and making the public see how they are interrelated.

In looking back over our work for the past year, we see significant signs of growth and progress, but we also realize that there is much ahead, especially in certain sections of the state where our branches are yet undeveloped. Although the key to action is through the emotions, there is danger that our health work might stop after we have attracted attention and aroused interest. A health program to be educational must lead to further activity on the part of the people themselves; therefore, a health agency must scrutinize itself to see that its program is one which passes into action. "Attract attention, arouse interest, create desire and stimulate action" are our goals. It is impossible to measure adequately our results, but nevertheless, we can with some degree of accuracy make a critical review of our work and evaluate achievements in terms of the above.

RESPONSE OF DR. WILLIAM HENRY WELCH*

I INTENDED to throw away my manuscript, but I knew I could hardly trust myself to speak without it. I must speak in my own person and not in that of the idealized figure which has been presented to you.

It is quite beyond my power of words to express the thoughts and the feelings of gratitude which this wonderful occasion has aroused in me. Did I accept merely as a personal tribute these words of praise and this manifestation of appreciation and good will marked by this large and distinguished gathering and by meetings elsewhere, I should be overpowered with a sense of unreality depriving me of utterance, but I shall assume, as I feel that I am justified in doing, that by virtue of certain pioneering work and through over a half-century of service, I stand here to represent an army of teachers, investigators, pupils, associates, and colleagues, whose work and contributions during this period have advanced the science and art of medicine and public health to the eminent position which they now hold in this country.

It is, then, in this representative capacity, as well as personally, that, first of all, I express to you, Mr. President, immeasurable gratitude for the distinction which you lend to this occasion by your presence and active participation. You will permit me to add, Sir, that your presence and generous words of appreciation have a significance not measured solely by the high office which you hold, for you speak, Sir, with the authority of one who has made memorable and outstanding contributions not only to this nation but to the whole world in the field of public health and social service, especially to the most appealing part of this domain, the health and welfare of infants and children.

And to you, President Farrand, and to you, my old friend and pupil, Dr. Flexner, who have spoken here so eloquently, even if in words all too generous so far as I, personally, am concerned, to Mr. Kingsbury and the other distinguished members of the committee who have arranged this marvelous occasion, to the many citizens, also to the medical officers of the Army, Navy and Public Health Service, members of my profession here gathered, who honor me by their presence, my debt of gratitude is beyond words to express. If my voice carries to an invisible audience, to personal friends and to other gatherings in honor of my eightieth birthday and what it may symbolize, it conveys appreciation and greetings which come straight from my heart.

While I have been kept in ignorance of the details of these ceremonies, I have been cognizant that the immediate occasion was to be the presentation to me of Mr. Hutty's etching, which, I am sure, in spite of the handicap presented by the subject, he has made a work of art. This I am delighted to accept with gratitude, and I am still more rejoiced that so many selected institutions and organizations with which I have been connected are to receive it.

If it is true, as I have been told, that there are gatherings of friends and colleagues in many places, not only in this country but also in other countries, who are interested in the event here celebrated, I only wish that the time allotted permitted me to tell them—my friends in Germany, whence came my early training and inspiration in pathology and bacteriology, my friends and colleagues in Paris, especially those at the Pasteur Institute, and those in London, Tokio, Peking, and elsewhere—to tell them how much pleasure and satisfaction and inspiration I have derived from their friendship and association. To the favor and support and coöperation of the members of my profession I owe whatever success I have attained.

No one could have been more favored in his professional career by time and opportunity, and by the good work, achievements and coöperation of pupils, assistants, and associates, than I have been.

Born only three and a half years after the introduction of surgical anaesthesia, I entered upon my professional career in the middle seventies of the last century, before Lister had really triumphed by the general adoption of the principles of antiseptic surgery and just before the demonstration by Pasteur and by Koch of the causation of infectious diseases by microscopic germs. I returned from Germany, thrilled with enthusiasm, at the dawn of the new era, and with some training and capacity to use that master key forged by pathology and bacteriology, which was to unlock secrets of nature destined to transform the fact of modern medicine.

Since that time the fundamental achievement which has made possible the remarkable development of scientific medicine in this country during the last four decades has been the great improvement in medical education, with the accompanying creation of laboratories for instruction and research. So brilliant have been the results in discoveries and their application to the treatment and prevention of disease, that one is likely to lose sight of the foundation upon which the stately superstructure rests.

Only those can realize the magnitude of this achievement, who know something of the condition of medical education in this country fifty years ago, when no one dreamed of endowing medical education and research, in contrast with the condition today, when these subjects, together with utilization of opportunities to further and to apply the new knowledge, consti-

*Delivered in Memorial Continental Hall, Washington, D. C., at the ceremonies in honor of his eightieth birthday, April 8, 1930.

tute the most favored and rewarding fields of private and public philanthropy.

I like to think that the primitive little laboratory which I started in 1878 at the Bellevue Hospital Medical College and that of Dr. Prudden, inaugurated almost simultaneously at the College of Physicians and Surgeons, and especially our effort to meet a much larger opportunity, at that time unique in this country, at the Johns Hopkins University and Hospital four decades ago, were not without influence in the improvement of medical education. But the accomplishment would not have acquired the national importance which it has assumed without the participation of other medical schools in the forward movement, the awakening of the medical profession through the American Medical Association and the State licensing boards, and the recognition of the great foundations, first and most important of all, the General Education Board, of the needs and opportunities of the situation.

If I have handed on any intellectual heritage to pupils, assistants, and associates, whose work and achievements have been the greatest satisfaction and joy of my life, it is derived from that which I received from my own masters. America is now paying the debt which she has owed so long to the Old World by her own active and fruitful participation in scientific discovery and the advancement of the science and art of medicine and sanitation.

The greatest triumphs of modern medicine have been in the prevention of disease, although the physician's power to alleviate and to heal has also been greatly enhanced. It is perhaps not too much to claim that America has taken a position of leadership in the application of the new knowledge to the prevention of disease and to personal and public hygiene.

But, my friends and hearers, it is my inclination, even at fourscore years, to look forward, rather than backward, and to avoid a feeling of self-complacency through the rehearsal of past triumphs. All along the line, in the fields of medical education and research, in the study and treatment of disease and injury, in the preservation and improvement of health and the prevention of disease, so much more remains to be done than has been accomplished, the problems awaiting solution are so numerous and pressing, above all, the better utilization of existing knowledge and the need of more knowledge are so obvious and so urgent that our mental attitude should be far removed from satisfaction with existing conditions.

While public health is the foundation of the happiness and prosperity of the people and its promotion is recognized as an important function of government, how wide is the gap between what is achieved and what might be realized, how inadequate is the understanding of the public concerning the means adapted to secure the best results, how small the attractions offered to those entering or who might desire to enter careers in public health through lack of suitable financial recompense, of security of tenure of office, of opportunities for promotion, of standards for eligibility based upon special training and experience, and of funds made available for the public promotion of health. Something of the lack of adjustment of the average man to rapidly changing social, economic, and political conditions of our complicated modern civilization may be reflected in a certain temporary maladjustment between curative medicine and preventive medicine, which should stand in harmonious relations.

As my immediate and, doubtless, final professorial interest is on the humanistic side of medicine, I may, in closing, be permitted to emphasize the attractions and importance of studies in the history of medicine and of science. We physicians apply the word "Humanism" to a period and to a spirit which released the mind from thralldom to authority and contributed mightily not merely to the study of antiquity but to the study of nature and of man, leading logically and rapidly to the cultivation of experimental science, between which and humanism as we understand and use the word, there is no incompatibility whatever.

While nothing can be more hazardous than to attempt to predict the directions of future discovery and progress in the biological and medical sciences, it requires no prophetic gift to be confident that with the widening of the boundaries of knowledge will come increased power to relieve human suffering, to control disease, to improve health and thereby add to the sum of human happiness and well-being. Your presence on this occasion and the widespread recognition so conspicuously manifested of the value of services rendered in the field of medical education and medical science are an encouragement to teachers and workers for which I am profoundly grateful and which accentuates the note of hopefulness which I have endeavored to sound.

MEDICAL HISTORY

THE MITRAL DISEASE OF W. H. HUDSON, 1841-1922

BY WILLIAM PEARCE COUES, M.D.*

FROM time to time in this *Journal* there have appeared lists of books interesting for physicians, reading outside of professional lines. Among these should be placed, *Far Away And Long Ago, Green Mansions, The Purple Land, A Hind In Richmond Park*, and *Hampshire Days*.

Certainly those physicians who do not as yet know Hudson, will be richly repaid in pleasure and profit, by reading some of these fascinating works of the English naturalist and philosopher.

It is not generally known that Hudson, who so passionately loved rural England, was of American ancestry, his father, Daniel Hudson being born in Marblehead, Massachusetts; his mother's maiden name was Catherine Kimble, "a true American from Maine, descended from a traditional Pilgrim Father".

Roberts[1] tells us that they were one of the first American families to settle near Buenos Aires, in the early Rio de la Plata State. It was here that Hudson was born on August 18, 1841.

His experiences on the South American pampas, gave rise many years later, to that absorbing and thrilling story "Far Away And Long Ago," mentioned above.

Heart disease was little understood in the time of Hudson's youth, and as will be seen later, he was condemned to die at an early age, but as not infrequently happens now, and more frequently happened then, the hopeless prognosis of his condition proved wrong, and he lived to old age, accomplishing an enormous amount of work, often under the most disadvantageous circumstances.

In "W. H. Hudson: A Portrait" Morley Roberts gives us a graphic description of this eagle among men, whose work for a long time failed to receive the recognition and praise it so well deserved.

Roberts tells us "That Hudson raised his own monument we know. I saw him build it. The foundation was well and truly laid, and each year's labour added to his power and insight."

Hudson came to "His England" when he was twenty-nine years old, and save for short trips to Scotland and Ireland, his life was spent in London and the rural districts, especially Hampshire, which he so deeply loved.

Roberts describes his birthplace in South America as follows: "For it was at Quilmes, some ten miles from the nascent city of Buenos Aires, and but a short distance from the brick-red waters of the river Plate that Hudson was born in the house named 'Los Veinte-cinco Ombues, or the Twenty-five Ombu Trees'. A victim of serious heart disease, given up to die, he wandered during the periods of comparative health. On those barren or grassy plains, burrowed by the *vizcacho*, haunted by the *carancho*, as it sought for dead or dying beasts, among horses and wild cattle, and wilder men, more bloodthirsty than the puma, that *amigo del Cristiano*, the active life granted to him by fate had been passed."

Concerning his mitral disease, our biographer tells us that he was doomed to death at fifteen years of age, by ignorant physicians whose excuse must be the general ignorance of the times concerning cardiac disease, and what a crippled heart might stand. He says, concerning Hudson's long span of life: "It is possible . . . that we may add something which inspires hope in those who, like Hudson have been sentenced to death and bidden to prepare for it untimely".

"How greatly ill health determines men's careers, and indeed makes them what they are, we see through all history. But for that attack of rheumatic fever which Hudson speaks of in 'Far Away And Long Ago,' he would not have been the man here so dimly adumbrated. The condition in which it left his heart, determined the order and direction of his life."

"It may be that without this fever that we in England should never have known him. Truly it set him free for all that his nature best fitted him, even if it also determined the manner of his death."

Hudson married in England, and for years his earnings were so small, that Mrs. Hudson was obliged to keep a London lodging house. After a time she sickened and had to go away for treatment. Hudson moved to new quarters —Roberts describes them as follows:—"It was as if a peregrine nested by the cracked bell of some dreadful Methodistical abortion of a chapel in the Black Country". We are told that for a number of years Hudson had extra systoles, and in 1916 auricular fibrillation was definitely established. He was sent by Roberts to see Sir James Mackenzie, his pulse at this time being rapid and wholly irregular. Sir James wrote to Roberts concerning the heart condition and his putting his friend on a heart régime with appropriate digitalis medication, the treatment probably saving him for many years of active life. After Mackenzie went to St. Andrews, Roberts sent Hudson to see Dr. Price. The patient always insisted that he felt best when his

*Coues—Surgeon to Outpatients, Massachusetts General Hospital. For record and address of author see "This Week's Issue", page 1919.

pulse was running at 80. Price wished it at 70, and so a compromise was made on 75!

August 16, 1922, after some days of illness Roberts found his old friend in bed. He said he was better, but it did not seem so to Roberts. "He had a pink cardiac flush. His circulation was failing and his heart dilated."

The patient complained of pre-cordial pain from his overloaded heart, the condition was such that recovery could not be expected and despite all that Dr. Parsons-Smith could do, who took charge in Dr. Price's absence, death came peacefully in the night of August 18, 1922.

In the conclusion of Roberts' account of his friend's last days, he writes these beautiful words:

"I stayed with him a long while. Presently they would bury him. Such a man! Such a beautiful big savage and genius—to be buried as we bury! I wished to take him out upon the open pampa, with a long wide view, beyond the sight of man, even on horse back, with the great clear sky above. So I would have digged a grave and put him there to rest in his blanket, just as he had fallen asleep, without disturbing his attitude of quiet peace. To have the wild winds sing about him, and the wild beasts crop herbage from his lonely grave, while noble voiced birds trumpeted above one who loved them—that is the grave I would have chosen for him." Hudson lived to be over 81 years of age. So died this beloved naturalist and philosopher, who struggled for 66 years successfully against a diseased mitral valve.

What a message of hope does his life give to those afflicted with heart disease, who now have at their disposal that knowledge which prolonged his life, and for the lack of which, his early death was predicted.

REFERENCE

1 Roberts, Morley: W. H. Hudson: A portrait. New York, E. P. Dutton And Company, 1924.

THE CARE OF BABY TEETH

Decayed teeth that hold quantities of decayed food materials, swollen, red gums, stained teeth, unclean mouths, all afford excellent breeding places for germs and many of the diseases of childhood are contracted because of such conditions. Nearly every contagious disease—all of the so-called children's diseases—gain their entrance to the body either through the mouth or nasal cavity. If the child's mouth is healthy, with sound teeth, and his gums firm and hard, many of these disease-causing organisms cannot find lodgment.

It is often asked, When should a child first be taken to the dentist? By all means he should be taken by the time he is three years of age, and at least every six months thereafter. The temporary teeth should be cleansed by the dentist at least twice a year, and all cavities should be filled just as soon as they appear. This is not painful unless the cavities are allowed to become large. All stains should be removed, because underneath these stains are plaques of germs which destroy the enamel. The fillings may be either of amalgam, or, what is probably preferable, of copper cement, which is plastic and easily inserted. In case a tooth is lost prematurely through accident or disease, the space should be retained by a simple appliance to hold the adjacent teeth apart. This is an age of prevention—an era that emphasizes the importance of taking every means to prevent disease before it occurs. The early visits to the dentist when, possibly, nothing is to be done but cleaning and giving advice as to the use of the tooth brush or a small filling or two, will have a salutary effect upon the child. He will look upon the dentist as his friend instead of some one to fear, and he will soon learn to take pride in the appearance of his mouth and teeth. Think what it will mean to this child when he grows up to have a beautiful, clean, and regular set of teeth.

Although the child does not lose all of his temporary teeth until he is about twelve years of age, the first permanent molar usually appears about the age of six years. The child does not lose any of his temporary teeth when this tooth erupts; but, instead, it appears just back of the last temporary molar. This is frequently confusing to mothers, because they have not noticed its arrival and often think it is a temporary tooth. This first permanent molar, or six-year molar, is the most vital tooth in the mouth—the keystone of the arch, as it is sometimes called. Many times it is not perfectly formed and decays quickly. This is a serious loss and always leaves the child's face deformed. Just as soon as this tooth appears, the family dentist should be consulted.

During all the time these temporary teeth are erupting, in use, and being lost, the permanent teeth are being formed. The permanent teeth are built of the same elements of which the temporary teeth are formed, and the only way these necessary elements can be taken into the body is in the proper food. Bone and tooth building elements—lime, phosphorus, and magnesium—are contained in most leafy vegetables, milk, butter, eggs, whole-wheat bread, coarse cereals, and fruit—but sunshine, open air play, fresh air at night, and clean personal habits are also essential to good health.—*Bulletin of the U. S. P. H. S.*

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16211

CHRONIC HEMATURIA. ACUTE HEADACHE AND NAUSEA

NEUROLOGICAL DEPARTMENT

An Irish-American clerk of seventeen was sent to the wards from the Out-Patient Department January 31. The chief complaints were burning micturition and hematuria of ten months' duration. He was so ill with headache and nausea that a detailed history was not taken at this time. The history of the present illness is taken in part from his history in the ward and in part from the Out-Patient Department records.

In February, eleven months before admission, he was ill in bed for ten days. He had temperature and blood stained sputum. His physician made a diagnosis of "pleural pneumonia". After this attack the patient had puffiness under the eyes. In April he had intermittent pain in the right lower quadrant for a week, coming on about an hour after eating and lasting about an hour. One night a little later he had an attack of sharp pain in the right side below the twelfth rib, followed by other attacks the same night. After this he had some pain on urination. Frequency of urination seven to eight times a day and two to three times at night had persisted. His physician found blood and pus in the urine and had an X-ray examination of the kidney region. The patient spent two days in a hospital, where a cystoscopy was done and tuberculin tests were made. He continued to report at this hospital twice a week for tuberculin and light treatment. He also took methylene blue pills. Under this treatment the burning and blood in the urine were much better and the edema under the eyes disappeared. For six months he had urinated every two hours with burning and had seen blood in the urine several times. Four months before admission he came to Boston and stopped treatment. For two months he had tired very easily. Urine examination in the Out-Patient Department December 5 showed a slight trace of albumin, 5 to 10 leukocytes and 2 to 6 red blood cells per field. X-ray examination showed the kidney outlines rather indistinct on both sides; no shadows suggesting stones. December 10 even a small observation cystoscope could not be passed. He was given an order for sandalwood oil. December 31 he still had some burning but no hematuria. He felt well. Recently his symptoms had grown worse. At admission he complained of blood always upon urination and towards the end of the stream, frequency sometimes every hour, sometimes every fifteen minutes for an hour or two, nocturia three to five times, and for the past week constant severe frontal headache.

He had scarlet fever at two years.

His family history is not significant.

Clinical examination showed a fairly well developed and nourished boy lying rather listlessly in bed, apparently suffering from intense headache and upset stomach. There was an indefinite suggestion of very small non-tender cervical glands on both sides. The heart sounds were of good quality but irregular, suggesting fibrillation. No other abnormalities of the heart are recorded. Pulses and arteries normal. Blood pressure 125/85. There was slightly diminished resonance over the right base posteriorly. In the right axillary region was diminished resonance. The patient held the whole abdomen rather tense, so that it was difficult to demonstrate real tenderness and to palpate the organs. There seemed to be fairly definite tenderness over the left kidney region and the right upper quadrant and there was spasm, voluntary or involuntary, in the right lower quadrant. The entire muscular wall of the abdomen seemed jumpy and ready to become rigid. Deep in the left lower quadrant was a slightly tender mass the size of a sausage, probably glands. There was much gurgling upon pressure, especially near the hepatic flexure and the sigmoid. Rectal examination showed the prostate small, the right lobe rather more prominent and firm than the left.

Urine: 85 ounces on the one occasion recorded, cloudy at both of two examinations, specific gravity 1.024, albumin at both tests, sugar once, sediment loaded with leukocytes and red cells once, gross bright red blood once. Renal function in two hours 50 to 55 per cent. Blood: 10,620 to 28,050 leukocytes, 85 per cent polynuclears, 65 per cent hemoglobin, reds 4,870,000, slight achromia. Hinton negative. Non-protein nitrogen 33 milligrams.

Temperature 97.7° to 102°, pulse 60 to 119, respirations normal.

At X-ray examination without injection the kidney outlines were not visible. There were three small areas of density opposite the right transverse process of the fifth lumbar vertebra which had the appearance of artefacts. Nothing definitely abnormal was noted in the abdomen. Examination of the chest showed diminished radiance of the left infraclavicular region and numerous calcified glands at each lung root.

A cardiac consultant reported, "Normal heart with sinus arhythmia. . . . Headache, fever, stiff neck".

Beginning January 31 the patient had intense headache and vomited. The temperature was a little elevated.

February 4 a lumbar puncture in the third—fourth lumbar interspace gave 18 cubic centimeters of faintly hazy colorless fluid, initial pressure 310, no evidence of block, 221 cells, 200 lymphocytes, 14 large mononuclears, 17 polynuclears, ammonium sulphate positive, Wassermann negative, chlorides 629, sugar 22 milligrams per 100 cubic centimeters, colloidal gold 0011221000, total protein 190. Another puncture the next day in the fourth—fifth lumbar interspace gave 30 cubic centimeters of faintly ground-glass colorless fluid, initial pressure 300, 243 cells, alcohol and ammonium sulphate faintly positive, Wassermann negative, chlorides 617, sugar 16.2, colloidal gold 0111221100.

That day the patient was in very poor condition, delirious, combative and continually passing gross blood. The next day he was in extremis. Morphia and paraldehyde were ineffectual. Sodium luminal six grains intravenously had only a partly quieting effect. Spinal drainage was impracticable. February 7 he died.

Clinical Discussion

BY RICHARD C. CABOT, M.D., AND LESLIE K. SYCAMORE, M.D.

NOTES ON THE HISTORY

Dr. Cabot: I assume the pain is in his back over his kidney.

His urinary frequency I suppose is the symptom that he complained of in the beginning. That is our main presenting symptom.

We may assume that they made, rightly or wrongly, the diagnosis of tuberculosis of the right kidney and presumably some other parts of the urinary tract, because one does not get isolated tuberculosis of one part of the genito-urinary tract very often.

I am interested in methylene blue pills because it is over twenty years since I have heard of anyone's using them. I did not know anybody used them now.

Dr. Sycamore: The kidney outlines in this film are faintly visible but obscured by intestinal shadows so that we cannot pick them out definitely. There is no evidence of stones in the kidney area. There is no evidence of calcification in the region of the kidney, which one would naturally look for in a tuberculous kidney.

Dr. Cabot: Before we read the physical examination what ought we to think of? The obvious thing is tuberculosis of the kidney, or of the genito-urinary tract including the kidney. That ought to come first. So far as the pain in the right lower quadrant has to do with the genito-urinary tract that would be like ureter pain, probably from clumps of pus sticking in the ureter, which give dilatation of the ureter from accumulation of urine behind them. He was only sixteen years old when this disease began, so the other common cause of such symptoms, namely cancer, does not need to be considered at all. What else? We can have such symptoms for a short time from a gonorrheal infection. This has gone on too long. If he were in a tropical country, Egypt for instance, these symptoms might come from Bilharzia disease; but I understand that he has lived right here, so we do not have to consider any of the diseases we might have considered had he lived in a tropical country. Could he have a septic infection, not tuberculous or gonococcic? I do not know of any such infection lasting for this length of time, although so many infections of other parts of the body are chronic.

In this particular part of the body I do not know any disease but tuberculosis that could produce this picture. Of course it might be said, "Why don't they settle it by examination for tubercle bacilli in the urine?" How easy is it to find tubercle bacilli in the kidney? It is very difficult. Sometimes they are found when they are not there. The smegma bacillus is indistinguishable, so far as I know, from the tubercle bacillus. I do not think any staining test whatsoever can distinguish them. Animal inoculation is the only sure test. One only makes a guess at it by staining specimens of sediment. I have seen those wrong many times both ways. Do you do sediment examination here?

Dr. Tracy B. Mallory: Yes, I think we do it pretty frequently. If Dr. King does it himself we get a high percentage of positives, and if anybody else does it not much over one per cent of positives. It all depends on the care and patience of those who do it. We do not attempt to do it unless we have a catheter specimen, to rule out the smegma bacillus.

NOTES ON THE PHYSICAL EXAMINATION

Dr. Cabot: I do not think tuberculosis of the kidney can produce uremic headache or any other kind of headache.

The diminished resonance in the right axillary region makes us think of enlarged kidney pushing up the diaphragm.

What would you infer from that examination of the prostate? Have we enough there to make us think that we have tuberculosis of the prostate?

A Student: I think they would have felt it.

Dr. Cabot: I do not believe they made any conclusions from that examination, and I do not believe they should. I believe we can have tuberculosis of the prostate without being at all sure of it from what we feel with a finger.

The urine examination goes to back up what I said about the headache and vomiting. When there is headache and vomiting with kidney disease we naturally say it is uremic headache and

vomiting. The renal function shows no diminution, there is no hyposthenuria, and nothing else except for what pus and blood would account for. We have no good evidence that retention of the products of excretion is going on.

All that the clinical examination so far tells us is that his abdomen *seems to be protecting something*, that he had apparently rather high dullness in the right axilla and back, which might correspond to enlarged kidney, and that he has pus and blood in his urine.

DR. SYCAMORE: We have another film of the genito-urinary tract which does not add anything to the previous film. The kidney outlines again are indistinct. There are three little shadows which do not have the characteristic appearance of kidney stones. They may be artefacts in the film or they may be due to calcification of glands. As they are not present in the previous film they may be artefacts here. There is no calcification in the kidney areas.

DR. CABOT: Do you draw any conclusions from the difficulty of outlining the kidneys?

DR. SYCAMORE: No.

In this film of the chest we do not find any dullness in either axilla. The diaphragm is in normal position, well outlined. The lung fields are clear. There are calcified glands at both lung roots. The left apex is perhaps somewhat suspicious. There is a little dullness over the clavicle, and the lung markings running to that region are rather prominent. We do not see the typical mottling of tuberculosis. I think we should not be justified in making a positive diagnosis of tuberculosis on these findings, but we should say it is a suspicious looking apex.

DR. CABOT: That last statement is a point of some importance, because his headache and vomiting could be constitutional manifestations of lung tuberculosis. I suppose they might be manifestations of renal tuberculosis, but I do not remember having seen them.

The cardiac consultant does not confine himself to the heart. Evidently he is suspicious of meningitis as the explanation of the headache, fever and vomiting I have been talking about. Nobody but the heart consultant says anything about the stiff neck.

The lumbar puncture shows evidence of a chronic irritative process which we have every reason to believe was tuberculous.

DIFFERENTIAL DIAGNOSIS

The patient died of tuberculous meningitis, miliary tuberculosis starting in the urinary tract with very possibly something at the top of the left lung. We have no evidence of miliary tuberculosis in that film, but I do not suppose anyone would say we have any positive evidence against it.

DR. SYCAMORE: I think we would say that at the time the film was taken there was not enough to show by X-ray.

DR. CABOT: When we get tuberculosis in the meninges we generally guess that a miliary process is present in the less articulate organs. The kidney does not talk much about miliary tuberculosis, nor the liver, spleen or lungs. But the brain talks,—we have symptoms. If it is the brain it is probably miliary tuberculosis. Whether that miliary process includes all the organs, includes the lungs or not, I do not know. How much evidence have we of the extension of this process in the genito-urinary tract? I assume it is in the kidney. I assume it is in the bladder,—it is not often in the bladder without having been further up than that. It is sometimes astonishing how little is found in the bladder no matter how much torture the patient may have been having. Whether it is in the vesicles or the prostate I do not know. All those things seem quite possible on the basis of the evidence we have. I imagine that as he has gone on about his work for some time the oldest process is the genito-urinary process. He came in here because of headache due to the extension of the process, presumably to miliary tuberculosis.

A STUDENT: If tuberculosis started in the kidney, how did it get there?

DR. MALLORY: It always starts somewhere else. The initial lesion of tuberculosis is always in contact with one of the body surfaces.

DR. CABOT: But you do not always find evidence of that post-mortem, do you?

DR. MALLORY: In Germany, where they are not hampered by restrictions, they find it in 95 per cent of the cases.

DR. CABOT: Then it has to start from the respiratory tract or the gastro-intestinal tract. In the male I do not suppose it can well start from the urethra?

DR. MALLORY: There are a certain number of circumcision cases where the penile lesion is primary, especially when circumcision is done by the old Orthodox method, where the rabbi used to suck the wound to stop the bleeding.

DR. CABOT: But ordinarily one does not get that in the male. I suppose in the female it could come from the tube?

DR. MALLORY: I think that is secondary, too.

A STUDENT: Could it set in from the skin?

DR. MALLORY: That is uncommon, but unquestionably occurs, especially where the skin is scratched. The frequency of the primary lesion is about eighty per cent in the lungs, fifteen per cent in the tonsils or somewhere in the nose and throat, and five per cent in the intestine, according to the German figures. In this country the proportion of intestinal cases is higher than that. In Germany the milk is almost always boiled, so that intestinal tuberculosis is a minor factor there.

DR. CABOT: How about bone tuberculosis?

DR. MALLORY: They have about as much of that as we do.

A STUDENT: How about tuberculous peritonitis?

DR. CABOT: I do not see how it can be ruled out. Of course we do not feel sure of any tuberculous peritonitis unless we get fluid. I have often seen such "dry" cases at autopsy, but we suspect the disease during life only when there is fluid or a mass of glands around the appendix. Pericecal masses were not felt here. They did not get fluid, but nevertheless as I say peritoneal tuberculosis is very possible.

INTERPRETATION OF X-RAY PLATES FEBRUARY 2

Old hilum tuberculosis.

BACTERIOLOGIC REPORT

A guinea pig was injected with urine obtained by catheter in the Out-Patient Department December 6. January 21 its autopsy showed tuberculosis.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Renal tuberculosis.
Tuberculous meningitis.

DR. RICHARD C. CABOT'S DIAGNOSES

Tuberculosis of the genito-urinary tract.
Miliary tuberculosis.
Tuberculous meningitis.
Possibly tuberculosis of the apex of the left lung.

ANATOMIC DIAGNOSES

Tuberculosis of the apex of the left lung.
Tuberculosis of the right kidney and ureter and the bladder.
Miliary tuberculosis of the liver and spleen.
Tuberculous meningitis.

PATHOLOGIC DISCUSSION

BY TRACY B. MALLORY, M.D.

This case of course did show a tuberculosis of the right kidney. That seemed to be a relatively recent lesion, I should suppose not of more than a year's duration. The oldest focus of tuberculosis was at the left apex, where the radiologists suspected something. Of course tuberculous meningitis was the freshest process of all. There was a miliary tuberculosis involving the liver and spleen but not the lungs, and it was not picked up in the other kidney, at least not in gross. We may find something microscopically.

DR. CABOT: How about the bladder?

DR. MALLORY: Tubercles ran down the right urethra and were also present in the bladder.

DR. CABOT: If you were looking at the bladder would you expect him to have so much irritation and frequency?

DR. MALLORY: In this case it was very thickly sown with tubercles, much more so than many.

DR. CABOT: How about the seminal vesicles and the prostate?

DR. MALLORY: Those were negative.

A STUDENT: Can miliary tuberculosis be confined to a few organs?

DR. MALLORY: Miliary tuberculosis can be distinctly elective in its distribution. We find cases where practically all the lesions are in the lungs and others where the lungs to a very considerable extent are spared.

DR. CABOT: What could have been done by way of treatment that was not done here?

A STUDENT: Could that kidney have been removed?

DR. CABOT: What was the condition of the other kidney, Dr. Mallory?

DR. MALLORY: The other kidney was in gross negative. It is claimed by people who have studied it a good deal that there never is tuberculosis in one kidney without some evidence of tuberculous infection in the other. On the other hand it is perfectly possible for the lesion in one kidney to be in a quiescent stage while the process is extending in the other side.

DR. CABOT: They had no grounds for undertaking surgery when he was here. He was too sick. But there was a long period before he came here when they might have considered it, probably did consider it, and very possibly urged on him operation.

I do not see why another thing was not considered still more, that is change of living conditions, including perhaps climate. That does renal tuberculosis just as much good as it does the lungs. I mean general hygienic management, with or without change of climate. I imagine this was not practicable with him.

A STUDENT: Was there any peritoneal involvement?

DR. MALLORY: No.

CASE 16212

DOES CANCER OF THE RECTUM METASTASIZE TO THE BONY PELVIS?

SURGICAL DEPARTMENT

An American shoe cutter sixty-six years of age entered February 24 complaining of too frequent bowel movements for the past three months.

Three months before admission a physician told him he had a "tumor in his back passage". For three months he had had ten or twelve movements a day and two or three at night. The stools were at times ribbon shaped. Since the onset of the diarrhea he had had blood in his stools, sometimes dark red, sometimes bright. He had lost thirteen pounds during the illness, forty pounds during the past five years. For twelve years he had had diabetes mellitus and had followed a diet with occasional lapses followed by return of polyuria, thirst and voracious appetite.

His family history is unimportant.

For thirty years he had had bilateral hernia. Otherwise his past history is negative. He

smoked a pipe incessantly and drank occasionally.

Clinical examination showed a fairly well developed little man with loose, wrinkled skin over his chest and abdomen. Apex impulse of the heart seen and felt in the sixth interspace. Percussion showed enlargement to the right and laterally. Artery walls palpable and tortuous. Blood pressure 130/80. Lungs clear. Liver dullness several centimeters below the costal margin, where the edge was palpable, not irregular. Orange sized masses in both groins, disappearing when the patient lay down. Both inguinal rings very much dilated. Small palpable glands in the left groin. On rectal examination a hard nodular growth was felt encircling three-quarters of the rectum, extending up as far as could be reached and burying the prostate.

Urine: 1,350 to 1,210 cubic centimeters, specific gravity 1.024 to 1.010, sugar at 7 of 12 tests. Blood sugar 200 milligrams. Blood: 10,900 leukocytes, hemoglobin 70 per cent, reds 4,680,000. Hinton negative.

Chart normal.

X-ray examination showed the bones of the pelvis definitely abnormal. There were rounded areas of bone destruction intermingling with bone proliferation involving almost the entire pelvis, excepting the sacrum. The lumbar vertebrae were normal. Another examination three days later confirmed the previous findings. There was a rather extensive process involving both innominate bones and the upper ends of both femora. There was no bowing, but it was thought there was some enlargement of the innominate bones. The spine was apparently normal. There was no evidence of metastases to the chest. The supracardiac dullness was increased 8.2 centimeters. The aorta was tortuous. Plates of the skull were negative. Plates of the hands showed punched-out areas about the margins of the joints, roughening along the margins of the shafts of the phalangeal joints and localized areas of diminished density in the ends of the phalangeal bones. There was also obliteration of the joint spaces in several films. The bones of the legs showed irregular roughening of the periosteum in the upper and mesial surface of the left tibia with rather coarse trabeculation in the upper portion of the shaft of this bone. The arteries of the leg were visible and showed marked calcification. There was no bowing.

CASE 16212. There are rounded areas of bone destruction intermingling with bone proliferation involving almost the entire pelvis excepting the sacrum.

The patient was advised to have an operation done and was told that a colostomy would ultimately be necessary regardless of whether the growth were removed or not. He preferred not

to be operated upon and took the responsibility upon himself, leaving against advice on February 27.

Discussion

BY WILLIAM MARTINDALE SHEDDEN, M.D.

Frequent bowel movements are most commonly the result of rectal irritation which may be either inflammatory or due merely to the presence of the tumor itself, which acts as a foreign body which the rectum attempts to expel. It is interesting to note how much discomfort a patient will endure before he demands treatment. In this case the patient was having twelve to fifteen stools in twenty-four hours, or a stool about every hour and a half. Many of these undoubtedly contained little or no feces, but probably pus, blood and mucus.

Ribbon stools are quite often mentioned as being a common sign of carcinoma of the rectum, but as a matter of fact they are only rarely seen.

It is very comforting to see that this patient went immediately to see the doctor when he noted a change in his normal bowel movements, which is of course of great importance in a person in the cancer age. But apparently after this he did nothing for some time, possibly because the gravity of his condition was not sufficiently impressed upon him.

Blood from the rectum even though hemorrhoids are present means cancer until cancer is ruled out. In this connection it is worth while to emphasize the fact that a negative barium enema does not rule out neoplasm of the rectum or of the sigmoid, for X-rays of this region are notoriously untrustworthy. A careful digital examination is the most important diagnostic maneuver. If the growth cannot be reached with the finger, protoscopy may reveal it.

This patient lost thirteen pounds in three months. It is interesting to speculate as to what caused this loss, for it is not an uncommon occurrence to have a patient with even advanced cancer of the rectum gain weight after a simple colostomy or even after an exploratory operation where nothing more was done. In some instances the gain is undoubtedly due to the fact that the patient thinks the cancer has been removed, the resulting improvement being due to his mental reaction.

On physical examination it was noted that the growth had encircled three-quarters of the rectum. Miles states that if a growth has become annular it has been present for a year.

Judging from his urine and blood sugar reports the patient has a mild diabetes which should be easily controlled and which should not complicate operative procedure.

The X-ray examination raises a very interesting question, namely, does cancer of the rectum or sigmoid metastasize to the bony pelvis and femora as does carcinoma of the prostate? A review of the literature for the past ten years reveals no proved case. Chalier and Mondor state that the sacrum may be invaded, but they say that they have not seen a case, nor do they report one. Rostock[1] reports an adenocarcinoma of the sacrum, arising however apparently just outside the rectum. He reports this case because Kraske[2] has shown that in rare instances rectal carcinoma may spring not from the mucosa but at the periphery of the rectum from embryonic rests. It would seem reasonable therefore to consider this case one of cancer of the rectum with coincident Paget's disease and to advise operation for the former, because it is impossible to tell whether a given cancer of the rectum is operable without an exploratory laparotomy.

Interpretations of X-rays

(First examination of the pelvis.) The changes in the pelvis are consistent with metastatic malignant disease, probably from the prostate gland. Paget's disease should be ruled out.

(Second examination.) Such an appearance could be due to the proliferative type of metastatic malignancy or to Paget's disease. I would favor the latter.

The appearance of the hands is more that of arthritis or gout than of Paget's disease or malignancy.

Diagnoses

Carcinoma of the rectum.

Diabetes.

Bilateral inguinal hernia.

1 Rostock, Paul: Carcinom bei einem 3 jährigen Kinde. Virchow's Arch., 267:352, 1928.

2 Kraske, P.: Erfahrungen über den Mastdarmkrebs. Samml. klin. Vorträge, 183, 1897.

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THE PROBLEM OF HEART DISEASE

ONE of the papers of especial interest contributed to the number read before the recently held New England Health Institute was that of Dr. W. H. Robey on heart disease.

Even with the accumulating understanding of the importance of heart disease there may be reason to believe that aside from specialists and those interested in public health matters the salient facts pertaining to diseases of the circulatory system are not fully appreciated by the laity and to a considerable extent also by the medical profession.

Although certificates of death often refer specifically to a heart lesion it should be recognized that the heart alone is not the only seat of disease processes often leading up to death, in a given case, for many of the degenerative diseases show changes in the general vascular systems and incidentally in other organs, so that death may be the final result of complicated pathological conditions with the heart as the more obvious failing organ.

Statistics indicate that heart disease heads the mortality list and its lethal effect has not been materially modified, and although the etiological importance of early life infections is recognized, therapeutic measures have not yet attained its dominance in the death record due partly to the extension of the life span of the periods in which the wearing out or degenerating processes are taking place.

At the present time there are over two per cent. of the population of this country with heart disease including three-fourths of one per cent. of the school children in the northeastern section.

There are several well-known causes of heart disease, most if not all of which demand the attention of practitioners, for even the congenital forms may be prevented or modified when the profession shall have more generally recognized the influence of the health of parents in its relation to the well-being of the child. Even without the etiologic factor of infection the insidious onset of degenerative changes will receive more attention in the future.

It may be not too much to expect that diseases of the circulatory system will be materially diminished under more searching study by the profession and more consistent application of preventive measures. The solution of the problem involved depends on general application of existing knowledge.

Dr. Robey's paper should be carefully read by practitioners, and the lessons conveyed passed on to the laity.

THE BAKER MEMORIAL

THE *Journal* has watched with interest the building and opening of The Baker Memorial of the Massachusetts General Hospital, which is the "department for people of moderate means". Patients in this hospital are cared for by the members of the staff of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary. The building was made possible by the generosity of Mrs. Mary Rich Richardson, and others. The aim of the hospital is to put the resources of a great general hospital before the "people of moderate means" at cost, in order that they may benefit from these resources without becoming objects of charity.

In order to bring this about, certain radical departures from usual medical practice in the care of private patients were necessary. All professional charges are included in the patient's hospital bill and the maximum charge for all professional services, no matter how long or how serious the case, has been definitely fixed. Fees for laboratory, x-ray, and operating room services are standardized so that each patient entering the hospital may have a clear idea of the approximate cost.

The hospital plans to coöperate in every way with the physicians who wish to send patients to the hospital, either for study and diagnosis or for treatment. To this end the Trustees have

determined that any physician may recommend the admission of a patient to the hospital and have instructed the staff that when the patient is discharged from the hospital to his physician, the physician shall be given all necessary information concerning his case.

It is generally realized that benefit accrues to patients in any large hospital from the free exchange of opinions of members of the staff. Here is a chance for the development of a system of frequent consultation at very low cost for the class of patient to whom the expense of consultation has been prohibitive in the past. This should be a boon, not only to the patient but to the family physician.

The Baker Memorial has now been in operation for nearly three months and there is every indication that the project is to be a success. It will be of interest to note whether the physicians of New England avail themselves of this opportunity for their patients or whether The Baker Memorial will be filled largely with the private cases of the members of the staff.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

ROBEY, WILLIAM H. M.D. Harvard 1895. Clinical Professor of Medicine, Harvard University. Chief, Second Medical Service, Boston City Hospital. Consulting Physician, Milton and Norwood Hospitals. President, American Heart Association. His subject is: "Prevention of Heart Disease". Page 983. Address: 202 Commonwealth Avenue, Boston.

BLAKE, FRANCIS G. A.B., M.D. Harvard 1913. Sterling Professor of Medicine, Yale University School of Medicine. Physician-in-Chief, New Haven Hospital. His subject is: "The Diagnosis and Treatment of Pneumonia". Page 991. Address: New Haven Hospital, New Haven, Conn.

SWEET, RICHARD H. M.D. Harvard 1926. Resident Surgeon, Massachusetts General Hospital. His subject is: "Incarceration of a Meckel's Diverticulum in a Femoral Hernia". Page 997. Address: Massachusetts General Hospital, Boston.

BLUMER, GEORGE. Honorary M.A., M.D. Cooper Medical College, San Francisco, 1921. David P. Smith Clinical Professor of Medicine, Yale University. His subject is: "The Relation of Clinics and Health Associations to the Medical Profession". Page 999. Address: 195 Church Street, New Haven, Conn.

LORD, FREDERICK T. A.B., M.D. Harvard 1900. Visiting Physician, Massachusetts General Hospital. Clinical Professor of Medicine, Harvard Medical School. His subject is: "The President's Address". Page 1002. Address: 305 Beacon Street, Boston.

KIERNAN, FRANK. A.B. Executive Secretary, Massachusetts Tuberculosis League. Secretary-Treasurer, Massachusetts Central Health Council. His subject is: "Annual Report of the Executive Secretary". Page 1004. Address: 1149 Little Building, Boston.

LATIMER, JEAN V. B.S., A.M. Fellow, Institute of Child Welfare Research, Columbia University. Educational Secretary, Massachusetts Tuberculosis League. Her subject is: "Annual Report of the Educational Secretary". Page 1005. Address: Massachusetts Tuberculosis League, Boston.

COUES, WILLIAM PEARCE. M.D. Harvard 1894. F.A.C.S. Surgeon to Outpatients, Massachusetts General Hospital. Consulting Surgeon, Massachusetts Eye and Ear Infirmary. Instructor in Surgery, Tufts College Medical School. His subject is: "The Mitral Disease of W. H. Hudson, 1841-1922". Page 1010. Address: 12 Monmouth Court, Brookline.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

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Tumors of Breast

Tumors of the breast are very common and may appear without definite clinical etiology and at any age, though they are more common in the childbearing period of the female.

They are divided into two great classifications, the Benign and Malignant. Histologically Warren gives this classification:

(A) Benign: Periductal fibroma. Periductal myxoma. Cystadenoma. Papillary Cystadenoma. Lipoma. Enchondroma. Myxoma. Angioma. Endothelioma. Leiomyoma.

(B) Malignant: Adenocarcinoma. Medullary carcinoma. Scirrhous carcinoma. Carcinoma simplex. Gelatinous Carcinoma. Paget's Disease. Epithelioma. Periductal Sarcoma. Spindle-celled, Round-celled, Mixed-celled, Melanotic and Alveolar Sarcoma.

Clinically we may get a small or large circumscribed swelling, which is non-adherent to the underlying tissue and which gives no definite symptoms and which thus gives the impression of a non-malignant tumor. Or we may get a mass which is indefinite in outline and adherent. We may get inverted or bleeding nipples, we may get axillary glands, we may get general physical disability with loss of weight, all of these suggestive of malignancy. We may find a breast suggestive of caked milk in former func-

tioning ducts but the main point is that clinically we can only guess as to the malignancy or non-malignancy of any breast growth.

What we do know is that from the time a breast tumor is discovered until medical advice is sought, too much time elapses and what is more to be deplored is that from the time of medical examination until actual biopsy still too much time is lost.

Every woman should be impressed with the fact that any tumor of the breast should be reported at once to her doctor and he should examine such masses with care and when any, even the slightest doubt exists as to the nature of this tumor, he should urge excision of the mass and pathological examination of the specimen. In this way only can the exact diagnosis be made and proper treatment be instituted.

Excision is a simple matter, without danger and little scar. Very little loss of time or expense to patient and the results are gratifying. If the growth proves to be benign everybody is happy, if malignant, then more extensive operation can be done with probability of cure if case has not been delayed so long before the exact diagnosis has been made as to make this impossible.

In the excision of these growths for examination we may use local anesthesia and if possible a cautery knife; this type of knife seals the vessels and thus prevents spread of cancer cells. If possible the specimen should be examined at once and then complete the more extensive operation if the mass proves to be malignant.

Where malignancy is suspected or proven it is impossible to know exactly how far the malignant cells have spread through the lymphatic system and a radical operation should always be done in case of doubt, with removal of muscles and axillary glands. Then, the writer feels, that each case should be followed up by x-ray therapy under the direction of the special men in this field of medicine.

To summarize the question of breast tumors we can say that from a practical clinical standpoint it is not important to know the exact histologic classification of tumors but it is important that every tumor of the breast be noted as soon as possible and that no time be lost from the day it is discovered until its malignant or non-malignant character can be determined. That when the slightest doubt exists (the writer feels strongly that every case) should have a biopsy and in this way adequate and prompt treatment may be given, with the ultimate result that more lives will be saved from cancer of the breast.

CELEBRATION OF THE 150th ANNIVERSARY IN 1931 OF THE MASSACHUSETTS MEDICAL SOCIETY

A WELL attended meeting of the committee intrusted by the Council to plan for and arrange a suitable celebration of the one hundred and fiftieth anniversary of the founding of the Massachusetts Medical Society was held in Boston, Monday, May 12, 1930 under the chairmanship of Dr. Fred B. Lund, who entertained the committee at luncheon. The different aspects of the situation were discussed by all the members present, including the President of the Society. The chairman of the Committee of Arrangements for 1931, Dr. H. Quimby Gallupe of Waltham, had already bespoken the Hotel Statler, Boston for Monday, Tuesday and Wednesday, June 8, 9 and 10. In a general way it is planned to arrange the program somewhat as follows, although the committee will meet again in the fall to perfect details: Monday morning, clinics at the chief hospitals in Boston; Monday afternoon, a garden fête at one of the large gardens in the suburbs; Monday evening, the Shattuck Lecture in the Boston Museum of Fine Arts followed by a reception; Tuesday morning, meetings of the Sections in the Hotel Statler; Tuesday noon, meeting of the Council; Tuesday afternoon, meetings of the Sections in the Hotel Statler; Tuesday evening, the annual dinner with distinguished speakers, Hotel Statler. Wednesday morning, any further Section meetings followed by the annual meeting of the Society and the annual discourse at noon, Hotel Statler.

It was thought that the officers of the Sections should devote some time to a sketch of the history of each Section and that the orator and Shattuck Lecturer should be asked to give special attention to the past of medicine in this Commonwealth. It was agreed that the remaining copies of Dr. Burrage's History of the Massachusetts Medical Society (1923), now in the Boston Medical Library, should be offered for sale, and that the sketch of Medicine in Massachusetts, prepared by Dr. Henry R. Viets for the Committee on the Tercentenary, should be brought to the attention of the Fellows.

MISCELLANY

WEEKLY HEALTH INDEX

Telegraphic returns from 64 cities with a total population of thirty million for the week ending May 10, indicate a mortality rate of 13.8 as against a rate of 12.9 for the corresponding week of last year. The highest rate (27.4) appears for Memphis, Tenn., and the lowest (7.1) for Duluth, Minn. The highest infant mortality rate (148) appears for Jersey City, N. J., and the lowest for Grand Rapids, Mich., Indianapolis, Ind., Nashville, Tenn., and Yonkers, N. Y., which reported no infant mortality.

The annual rate for 64 cities is 13.9 for the nineteen weeks of 1930, as against a rate of 15.3 for the corresponding weeks of 1929.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT
WITH 1929 AND SEVEN YEAR AVERAGE
MONTH ENDING MAY 3, 1930.

DISEASES	1930 Wk. ending April 12	1930 Wk. ending April 19	1930 Wk. ending April 26	1930 Wk. ending May 3	Average cases reported for week corresponding to May 3 for past seven years.	1929 Wk. ending April 13	1929 Wk. ending April 20	1929 Wk. ending April 27	1929 Wk. ending May 4
Anthrax	-	-	2	-	-	-	1	-	-
Cerebrospinal Men.	2	2	5	4	-	3	3	2	-
Chickenpox	97	118	109	83	65	44	65	59	67
Conjunctivitis Inf.	11	-	-	-	2	-	-	-	-
Diphtheria	11	16	17	6	26	15	29	21	14
Dysentery Amoebic	-	-	1	-	-	-	-	-	-
Encephalitis Epid.	-	-	-	1	1	-	-	-	-
German Measles	50	59	69	64	45	101	152	155	95
Influenza	5	10	5	1	16	10	18	3	6
Malaria	-	-	1	-	-	-	-	-	-
Measles	20	26	76	43	295	620	570	484	376
Mumps	30	42	42	47	56	74	102	57	41
Pneumonia (Broncho)*	39	38	28	23	37	28	37	22	18
Pneumonia (Lobar)	37	52	58	31	45	37	30	32	30
Poliomyelitis	-	-	-	-	-	-	-	1	-
Scarlet Fever	101	92	80	65	94	67	57	46	50
Septic Sore Throat	3	4	1	1	1	3	1	2	3
Smallpox	-	-	-	-	1	1	1	3	-
Tetanus	-	-	-	-	-	-	2	-	-
Trachoma	-	-	-	-	-	-	1	-	-
Trichinosis	-	-	1	-	-	1	-	-	-
Tuberculosis (Pul.)	34	50	30	30	33	35	36	31	26
Tuberculosis (O.F.)	6	4	6	3	4	1	2	-	1
Typhoid Fever	1	1	1	2	2	2	-	1	2
Undulant Fever**	-	1	-	-	-	-	-	-	-
Whooping Cough	30	39	38	44	50	33	33	33	17
Gonorrhea	20	18	26	39	21	28	47	15	18
Syphilis	34	23	35	46	30	22	47	21	39

* Made reportable January 1, 1925.
** Made reportable July 1, 1928.

REMARKS: No cases of Asiatic cholera, Glanders, plague, rabies in humans and Yellow Fever during the past seven years.

OFFICERS ELECTED BY THE WORCESTER DISTRICT MEDICAL SOCIETY FOR 1930-1931

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Vice-President: Dr. Ernest L. Hunt, Worcester.
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Secretary: Dr. Erwin C. Miller, Worcester.
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Committee on Funds: Dr. Michael F. Fallon, Worcester; Dr. Royal P. Watkins, Worcester; Dr. Leslie R. Bragg, Webster.
Commissioner on Trials: Dr. Walter P. Bowers, Clinton.
Councillors:
*Dr. Walter P. Bowers, Clinton—Term began 1902.
*Dr. Samuel B. Woodward, Worcester—Term began 1902.
Dr. James C. Austin, Spencer—Term began 1919.
Dr. Leslie R. Bragg, Webster—Term began 1922.

*Councillor for life by virtue of being past president of the Society.

Dr. Frank H. Clapp, North Grafton—Term began 1930.

Dr. Philip H. Cook, Worcester—Term began 1929.

Dr. William J. Delahanty, Worcester—Term began 1913.

Dr. George A. Dix, Worcester—Term began 1921.

Dr. George E. Emery, Worcester—Term began 1920.

Dr. Michael F. Fallon, Worcester—Term began 1916.

Dr. Homer Gage, Worcester—Term began 1906.

Dr. James J. Goodwin, Clinton—Term began 1921.

Dr. Ray W. Greene, Worcester—Term began †1907.

Dr. David Harrower, Worcester—Term began 1905.

Dr. Ernest L. Hunt, Worcester—Term began 1918.

Dr. Arthur W. Marsh, Worcester—Term began 1922.

Dr. Walter C. Seelye, Worcester—Term began 1930.

Dr. Edward H. Trowbridge, Worcester—Term began 1924.

Dr. Royal P. Watkins, Worcester—Term began 1927.

Dr. Frank H. Washburn, Holden—Term began 1916.

Censors: Dr. George A. Dix, Worcester; Dr. Roger W. Schofield, Worcester; Dr. Gilman L. Chase, Clinton; Dr. Benjamin H. Alton, Worcester; Dr. Oliver H. Stansfield, Worcester.

Nominating Committee: Dr. Charles M. Church, Millbury; Dr. Morton H. Langill, Worcester; Dr. H. V. Williams, Whitinsville; Dr. C. R. Abbott, Clinton; Dr. C. A. Sparrow, Worcester.

Library Committee: Dr. William F. Lynch and Dr. William F. Holzer, Worcester; Dr. Oliver H. Stansfield, Worcester.

Librarian: Dr. Albert C. Getchell, Worcester.

Auditing Committee: Dr. E. A. Fisher, Worcester; Dr. John J. Dumphy, Worcester; Dr. Armand L. Caron, Worcester.

†Continuous except 1915-1916.

NORFOLK DISTRICT MEDICAL SOCIETY

Following is the list of officers elected at the annual meeting, May 6, 1930:

NOMINATING COMMITTEE MEETING MARCH 17, 1930

T. J. Murphy, Chairman; George W. Winchester, Carleton S. Francis, William W. Howell, Frank A. Wheatley, Frank S. Cruickshank, Secretary.

NOMINATING COMMITTEE'S LIST FOR 1930-1931

President: W. A. Lane, Milton, 1930.

Vice-President: W. B. Keeler, Roxbury, 1930.

Secretary: Frank S. Cruickshank, Milton, 1924.

Treasurer: George W. Kaan, Reading.

Commissioner of Trials: H. F. R. Watts, Dorchester, 1928.

Nominating Councillor: David G. Eldridge, Dorchester, 1926; C. S. Francis (Alternate), Brookline, 1926.

Censors: J. E. Hallisey, Dorchester, 1927; A. H. Davidson, Milton, 1928; J. S. H. Leard, West Roxbury, 1929; J. S. May, Roxbury, 1929; H. K. Boutwell, Brookline, 1930.

Councillors:

J. W. Bail, Brookline, 1930.

F. J. Bailey, Dorchester, 1929.

F. G. Balch, Jamaica Plain, 1929.

W. W. Barker, Dorchester, 1930.

A. S. Begg, West Roxbury, 1929.

D. N. Blakely, Brookline.

W. L. Burrage, Brookline.

W. S. Burrage, Brookline, 1930.

F. S. Cruickshank, Milton, 1924.

F. P. Denny, Brookline, 1927.

D. G. Eldridge, Dorchester, 1922.

W. C. Emery, Dorchester, 1929.

C. B. Faunce, Jr., Jamaica Plain, 1929.

C. S. Francis, Brookline, 1924.

N. W. Gillespie, Dorchester, 1930.

W. A. Griffin, Sharon, 1927.

J. B. Hall, Roxbury, 1926.

J. E. Hallisey, Dorchester.

H. B. Jackson, Jamaica Plain, 1930.

G. W. Kaan, Reading.

W. B. Keeler, Roxbury, 1927.

W. C. Kite, Milton, 1929.

W. A. Lane, Milton, 1925.

O. Leary, Jamaica Plain, 1929.

C. L. MacGray, Needham, 1930.

Chas. Malone, Jamaica Plain, 1930.

J. R. McPeake, Milton.

T. J. Murphy, Roxbury, 1930.

W. R. Ohler, Jamaica Plain, 1929.

E. P. Powers, Roxbury, 1929.

H. B. Riemer, Norwood, 1929.

F. Ries, Dorchester, 1930.

S. A. Robins, Roxbury, 1929.

C. A. Rowe, Milton, 1929.

Victor Safford, Jamaica Plain, 1920.

W. L. Turetsky, Dorchester, 1930.

H. F. R. Watts, Dorchester, 1926.

W. A. White, Roxbury, 1929.

W. H. Young, Dedham, 1929.

THE STANDING OF THE BOSTON MEDICAL LIBRARY

The Boston Medical Library enjoys an international reputation in its particular field of medical library work and its officers are called on from time to time as consultants and advisors to other medical libraries. Recently, the Director, Mr. James F. Ballard, visited Louisville on the invitation of the Dean and Chairman of the Library Committee of the University of Louisville, and made a survey of the Medical Library. Also, Mr. Ballard in the past had considerable to do with the forming of the libraries for the Peiping Union College in China and the University of Rochester, New York Medical School Library. He also made a survey of the Detroit Medical Library and has been called in consultation locally to a number of libraries.

THE PRIZES AWARDED FOR THE SECOND GORGAS MEMORIAL ESSAY CONTEST

On May 12, 1930, President Hoover awarded the Charles R. Walgreen Prize of $500 for the winning essay in the Second Annual Gorgas Memorial Essay Contest, to Pauline Lodge of Lakewood, Ohio. Miss Lodge is a senior in the Lakewood High School.

The subject of this year's contest was "The Gorgas

Memorial; Its Relation to Personal Health and the Periodic Health Examination", and over five thousand essays were submitted by High School students from all parts of the United States.

A state prize was awarded for the best essay in each state, and from these papers the national winners were selected by a committee of judges composed of Dr. Hugh S. Cumming, Surgeon-General, United States Public Health Service; Dr. William Gerry Morgan, President-elect, American Medical Association; Dr. William John Cooper, United States Commissioner of Education; and Dr. Allen B. Kanavel, Regent, American College of Surgeons.

Miss Lodge received, in addition to the five one hundred dollar bills handed to her by President Hoover, $250 for travel expenses to Washington for the presentation. Other prizes were as follows:

2nd National prize of $250 to Canascia Duncan of Omaha, Nebraska.

3rd National prize of $100 to William Lennon of Willimantic, Connecticut.

4th Prize—Honorable mention to Helen Dale of Point Loma, California.

5th Prize—Honorable mention to Owen Edgar Duffy of Miami, Florida.

The state prizes were $20 to each winner, and to the writer of the best essay in each of the competing high schools was awarded a bronze Gorgas Medal.

President Hoover, who is Honorary President of the Gorgas Memorial Institute, presented the first prize in the presence of a notable group including the national judges; Mr. Charles R. Walgreen of Chicago, President of the Walgreen Company Drug Stores and sponsor for the essay contest; Dr. Franklin Martin, Chairman of the Board, Gorgas Memorial Institute; Admiral Cary T. Grayson, President, Gorgas Memorial Institute; Senators Fess and McCulloch, and Congressman Bolton of Ohio; Dr. Henry S. Wellcome, founder of the Wellcome Tropical Research Laboratories; Dr. L. S. Rowe, Director General of the Pan American Union; Mr. Robert V. Fleming, President of the Riggs National Bank and Treasurer of the Gorgas Memorial Institute; Major General Merritte W. Ireland, Surgeon General U. S. Army; Dr. W. F. Draper, Assistant Surgeon-General U. S. Department of Public Health; and Dr. J. F. Rogers of the Office of Education.

The objects of the Gorgas Memorial Institute, for the promotion of which the Walgreen Annual Essay Contest is held, are to:

1. Eliminate unnecessary illness and check diseases in their early stages, thus (a) saving the 750,000 lives lost annually in the United States, due to preventable disease; (b) saving the 300,000,000 days lost annually due to illness and non-industrial accidents of 46,000,000 gainfully employed persons; (c) building up the 25,000,000 youths and adults in the United States who are now physically below par; (d) laying the foundation for healthier future generations by giving the present day mothers and fathers authoritative medical information;

2. Make life healthier, more enjoyable and more productive, and increase its span from fifty-eight years, its present average, to sixty-five or seventy by educating the public to submit to an ANNUAL HEALTH AUDIT by the family physician and the family dentist, who should be the custodians of health;

3. Eradicate tropical diseases, thus opening to habitation territories of enormous wealth;

4. Eradicate mosquitoes which are both a pest and a health menace (malaria alone costs the country $100,000,000);

5. Free all the world from preventable disease, the purpose to which the life of General Gorgas was dedicated.

BUBONIC PLAGUE

From Guayaquil, Ecuador, last week went triumphant despatches that U. S. Public Health men had eradicated bubonic plague from the community. The men were Drs. John D. Long and Clifford Rush Eskey.

Bubonic plague, the Black Death, has been one of man's most terrific scourges. In the 14th Century it killed 13,000,000 people in China, 24,000,000 in the rest of the East, 25,000,000 (one-fourth of the population) in Europe. Its horror is recorded in Daniel DeFoe's Journal of the Plague Year, 1665, when 70,000 died in London. In 1630, 80,000 perished in Milan. Between 1896 and 1917 it killed 10,000,000 over the world.

Although San Francisco is one of the five known endemic foci of bubonic plague,* very seldom does a case now appear in the U. S. Rats, ground squirrels (the chief cause in California) and other rodents carry the germ, *Bacillus pestis*. Fleas bite the rats, then carry the bacilli to man's habitations, his clothes, his body. To prevent the disease, rodents must be exterminated and their fleas kept from humans through personal hygiene.

Drs. Long and Eskey cleaned Guayaquil by drastically cleaning the city of vermin and teaching the inhabitants personal cleanliness. Their next chore, upon which they are already started: to derat, deflea, deplague Peru.

*The other foci: 1 & 2) in China, whence the modern outbreak of the late 1890s spread, one on the eastern slope of the Himalayas, one on the western slope; 3) from the Centre of Arabia to Mesopotamia; 4) Uganda near the source of the White Nile.

—*Time*, May 19, 1930.

CORRESPONDENCE

CHANGES IN THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

May 13, 1930.

Editor, *New England Journal of Medicine:*

May I report through the *Journal* some important changes in the staff of the Department.

On June 1 Dr. Edward A. Lane, Assistant Director of the Division of Communicable Diseases, is leaving us to take charge of the communicable disease work in the new Westchester County unit of which Dr. Matthias Nicoll, Jr., formerly New York State Health

Commissioner, is Health Officer. Before beginning this interesting work Dr. Lane will complete the important study of diphtheria in Massachusetts which he has been making for the last three years. He will be succeeded as Assistant Director by Dr. Gaylord W. Anderson, who has been doing so well as Epidemiologist in the Department.

Dr. Wilson W. Knowlton, through the help of the Harvard School of Public Health, has begun the vitally important work of developing unions of small towns in Massachusetts in health districts. Under our form of government this in general appears to be the only way of obtaining the benefits of full-time health service in the rural parts of Massachusetts as has been done so widely elsewhere on a county basis. This work of Dr. Knowlton's is perhaps one of the most important and far-reaching of the activities of the Department. He has been succeeded as State District Health Officer in the Northeastern District by Dr. Robert E. Archibald who has received admirable training and practical experience at the Michigan Training Station.

The vacancy made by the resignation last winter of Dr. Leland M. French as State District Health Officer in the Berkshire District has been filled by Dr. Frederick S. Leeder. Dr. Leeder received his public health training at the excellent school at Toronto and his practical experience in the Province of Saskatchewan where he met the multiple problems of rural health administration.

Dr. Henry M. DeWolfe of Malden has joined the Department as Epidemiologist in Venereal Disease. During the last two years Dr. N. A. Nelson had contributed very materially to our thinking in regard to this important public health work. Dr. DeWolfe will help him in improving and extending the work of the venereal disease clinics and, more important, in making more adequate the general quality of service for these diseases observed in the private offices, as well as helping us think out how we may soundly extend the public protection against this disease menace.

Yours truly,
GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

VOLTAIRE ON THE ORIGIN OF SYPHILIS

Mr. Editor:

The following quotation from "Candide," shows that the sage and philosopher of Fernay was a firm believer in the Columbian origin of syphilis. The last sentence in the quotation may seem a particularly fine example of that playful and subtle wit for which Voltaire was so famous, but we must remember that the ravages of malignant syphilis at the time of which he writes often resulted in similar mutilations.

Candide has just met his former tutor, Pangloss, during his travels and finds him in a pitiable state.

"My dear Candide! You remember Paquette, the maid servant of our august Baroness; in her arms I enjoyed the delights of Paradise which have produced the tortures of Hell by which you see I am devoured; she was infected, and perhaps is dead. Paquette received this present from a most learned monk, who had it from the source; for he received it from an old countess, who had it from a cavalry captain, who owed it to a marchioness, who derived it from a page, who had received it from a Jesuit, who when a novice, had it in direct line from one of the companions of Christopher Columbus. For my part, I shall not give it to any one, for I am dying."

"O Pangloss!" exclaimed Candide, "this is a strange genealogy. Wasn't the devil at the Root of it?" "Not at all," replied the great man. "It was something indispensable in this best of worlds, a necessary ingredient, for if Columbus in an island of America had not caught this disease, which poisons the source of generation, and often indeed prevents generation, we should not have chocolate and cochineal; it must also be noticed that hitherto in our continent this disease is peculiar to us, like theological disputes. The Turks, the Indians, the Persians, the Chinese, the Siamese, and the Japanese are not yet familiar with it; but there is a sufficient reason why they in their turn should become familiar with it in a few centuries. Meanwhile, it has made marvelous progress among us, and especially in those large armies composed of honest, well bred stipendiaries who decide the destiny of States; it may be asserted that when thirty thousand men fight a pitched battle against an equal number of troops, there are about twenty thousand with the pox on either side."

"Admirable," said Candide. "But you must get cured."

"How can I?" said Pangloss. "I haven't a sou, my friend, and in the whole extent of this globe, you cannot be bled, or receive an enema without paying, or without someone paying for you."

"This last speech determined Candide, he went and threw himself at the feet of his charitable Anabaptist, Jacques, and drew so touching a picture of the state to which his friend was reduced that the good easy man did not hesitate to succour Pangloss; he had him cured at his own expense. In this cure Pangloss only lost one eye and one ear."

This quotation is from the recent New York edition of Candide, so graphically and artistically illustrated by Rockwell Kent. At the end of the chapter quoted from, is a picture of Pangloss, swathed and bandaged, writing in bed—probably of his terrible bout with *S. Pallida.*

Yours truly,
WM. PEARCE COUES, M.D.

DISTINGUISHING LABELS ON AMPOULES OF TYPHOID VACCINE AND TOXIN-ANTITOXIN

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

May 14, 1930.

Editor, *New England Journal of Medicine:*

May I announce through your columns that in response to a number of requests from physicians we are beginning now to put blue labels on our ampoules of typhoid vaccine and continuing white labels

on our ampoules of diphtheria toxin-antitoxin. Because of the difference in the turbidity of the material it is very difficult for us to understand why mistakes have occurred in the past but from reports which we have received it is evident that there has been confusion and we hope that except among those with color blindness this chromatic distinction may be of service in avoiding such mistakes in the future.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

ANENT MEDICAL ETHICS

A BRAVE ATTEMPT TO SOLVE A MOOTED QUESTION

May 11, 1930.

Dear Editor:

Verily is competitive medicine afflicted with a general malady affecting all its aspects, economic, sociological, legal, humanitarian, and ethical. Medical ethics are preached largely by those of an older generation unfamiliar with the changing times and customs. Such is the scramble of the present practitioners for medicine's phantasmal prizes that medical ethics, like prohibition, are observed not by the large majority but by the small minority.

How puerile, indeed, was the editorial reply in a recent medical journal to the sensational contribution to a popular periodical upon this confused subject! One wonders if it is ethical for the full-time editor of a medical society to publish his private syndicated articles under his own name and his official editorial title.

The particular part of our code of ethics which arouses the most distrust among laymen is that pertaining to the secret discussions attending consultations. Naturally, knowing that mistakes can be concealed therein, they resent either patients or relatives suffering any consequent loss. Surely liability insurance, of which the people avail little, provides inadequate compensation for the deprivation of anything as precious as health or life.

For such incongruities of medical ethics there is only one definite remedy—a veritable panacea for the ills of individualistic medicine. It applies the principles of preventive medicine in its full scope. It puts public service before private practice. It makes the art of medicine subservient to the science of medicine. It displaces a commercial anachronism with a modern organization; dispels disorder and establishes order. In peace-time it would be much more efficient than in war-time. If not furnished voluntarily by us as servants of mankind, it may be demanded of us as serfs of the people. It is, in fact, a completely organized system of free medicine with its regulation and control of both its agents and its beneficiaries.

G. W. HAIGH, M.D.

242 Burncoat Street, Worcester, Mass.

NEWS ITEMS

HARRY H. MOORE, PH.D., VISITS BOSTON—On the evening of May 16, 1930, a group of physicians and economists interested in the questions pertaining to the cost of illness and the study of methods by which the unnecessary burdens of ill health might be ameliorated gathered at the Harvard Club to meet Dr. Moore, the Director of the studies now being conducted by the Committee on the Cost of Medical Care.

The object of the meeting was to explain the purposes of the committee and the methods employed in securing facts relating to the various elements which contribute to the financial strain incident to disease.

Dr. Moore gave a detailed account of studies and investigations which have been made and those contemplated.

Following the address, a free discussion of all problems involved was carried on until nearly midnight.

Dr. Moore was especially pleased with the constructive suggestions submitted and with the interest shown in the work of the Committee on the Cost of Medical Care.

THE NATIONAL COMMITTEE ON MATERNAL HEALTH—The New York Committee on Maternal Health has been incorporated under the new title of the National Committee on Maternal Health. Dr. Samuel R. Meaker, Professor of Gynaecology in Boston University, has been appointed a member of the Executive Council, and Chairman of the Sub-committee on Sterility.

PHYSICIANS OF THE LONG ISLAND HOSPITAL RESIGN—Dr. Saunders Murray and Dr. Ralph S. Miller have resigned from the position of chief and associate physician respectively of the Long Island Hospital. Both have refused to discuss conditions at the prison.

Staff members with temporary appointments are functioning until the new organization has been definitely decided upon.

NOTICES

A POSTGRADUATE WEEK OF PHYSICAL THERAPY

TO BE CONDUCTED BY THE AMERICAN CONGRESS OF PHYSICAL THERAPY

Announcement is made of "A POSTGRADUATE WEEK OF PHYSICAL THERAPY" in conjunction with the ninth annual scientific session of the American Congress of Physical Therapy, to be conducted September 8 to 12, inclusive, 1930, at the New Hotel Jefferson, St. Louis, Mo.

An intensive postgraduate week of physical therapy is promised. Elaborate plans have been perfected for teaching, demonstrations and clinics. The physician who is interested in physical therapeutics and who has not had any instruction in the work will find the lectures on the fundamentals a sound basic means for further study. The more experienced, on the other hand, will gain considerably from the advanced expositions on light, heat, electricity, massage and all the other physical agents utilized in practice. Every phase of physical therapy will be covered. The subjects will be general and

specific and so varied as to appeal to both the general practitioner and the specialist.

While it is appreciated that a week is a rather short period for postgraduate teaching, the systematic arrangement of the program makes it possible for the physician to attend only those sessions in which he is vitally interested. As has been the practice in the past, sectional gatherings will prevail in Medicine, Surgery, and Eye, Ear, Nose and Throat. Several of the afternoons and evenings will be given over to addresses by prominent guests. There will be symposia on "Education and Teaching of Physical Therapeutics" and on "The Relation of the Physician and the Technician in Office and Hospital Practice".

New features in the conduct of clinics and demonstrations will be observed. In fact, so many new features have been arranged that they cannot be enumerated here. The preliminary program will be issued within a short time. Full information and details are contained in it. Details will be furnished on application to:

Executive Secretary, American Congress of Physical Therapy, Suite 716, 30 N. Michigan Avenue, Chicago, Ill.

THE JOHN PHILLIPS MEMORIAL PRIZE

The American College of Physicians announces the JOHN PHILLIPS MEMORIAL PRIZE of $1500.00, to be awarded for the most meritorious contribution in Internal Medicine and sciences contributing thereto, under the following conditions:

(1) The contribution must be submitted in the form of a thesis or dissertation based upon published or unpublished original work.

(2) It must be mailed to the Executive Secretary of the American College of Physicians on or before August 31, 1930.

(3) The thesis or dissertation must be in the English language, in triplicate, in typewritten or printed form, and the work upon which it is based must have been done in whole or in part in the United States or Canada.

(4) The recipient of the prize would be expected to read the essay at the next Annual Meeting of the College, after which he would be officially presented with the prize by the President.

(5) The College reserves the right to make no award of the prize if a sufficiently meritorious piece of work has not been received.

(6) The announcement of the Prize winner will be made not later than two months before the Annual Meeting.

AMERICAN COLLEGE OF PHYSICIANS,
E. R. Loveland, Executive Secretary,
133-135 S. 36th Street,
Philadelphia, Pa.

EDITORIAL NOTE:

Dr. John Phillips was a Regent of the American College of Physicians for many years. He met his death in the Cleveland Clinic disaster of last year. He was always interested in stimulating medical research.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Physiotherapy Aide
Physiotherapy Assistant

Applications for physiotherapy aide and physiotherapy assistant must be on file with the Civil Service Commission at Washington, D. C., not later than June 24, 1930.

The examinations are to fill vacancies in the hospitals of the United States Veterans' Bureau and Public Health Service throughout the country, and in positions requiring similar qualifications.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

REPORTS AND NOTICES OF MEETINGS

AN ABSTRACT OF AN ADDRESS ON INHERITANCE OF MENTAL DISEASE BY DR. A. MYERSON

Under the auspices of the Phillips Brooks Association on April 28, 1930 at 5:00 o'clock at the Harvard Medical School, Dr. Abraham Myerson, Professor of Neurology at Tufts College Medical School, spoke on "Inheritance of Mental Diseases".

Professor Myerson pointed out the importance of the subject not only because of the economic importance of insanity, but more especially because of the number of mentally diseased. All forms of mental disease were formerly grouped under the one designation "insanity". Early French psychiatrists classified all such individuals as psychopathic personalities. This idea was expanded by Lombroso and his followers to include genius, idiocy, senility, criminology and even to the extent that it seemed to include everyone. This is known as the polymorphic theory. In late years, study has led to the separation of the diseases into clinical entities. Dr. Myerson illustrated this point by referring to the evolution in the understanding of general paresis from the delusions of grandeur, through the finding of the Argyll Robertson pupil, the study of the reflexes, the spinal fluid, and the Wassermann, to the pathological examinations. Functional diseases are not yet understood, however.

Dr. Myerson discussed the inheritance of four different classes of mental disease. General paresis, which accounts for 10% of the male and 3-5% of the female populations of the state institutions is not a hereditary disease. When one considers that only 5% of all luetics become paretics, this stand seems logical.

Alcoholic psychoses are supposed to be hereditary. They form 7-8% of institutional cases. It is said that the reason a few chronic alcoholics get psychotic is because they have inherited this defect. Dr. Myerson statistically showed that this idea is incorrect. One must be careful to differentiate which

comes first, the alcohol or the psychopathic personality.

A third group is the arteriosclerotic psychoses. Here again it is a question whether the psychosis is due to the senile arteries or the degenerative parenchymatous processes occurring simultaneously with the arteriosclerosis. Certainly here there is no psychopathic background, since after all in every family abnormal personalities may be found.

The fourth class is the functional psychoses divided into the manic-depressive, numerically the most important outside of institutions, and the dementia praecox or schizophrenia, numerically the most important in institutions because these patients get sick early and remain so for long periods. The manic-depressive psychoses are the most important of the hereditary mental diseases. Here there is a question of a germ plasm defect. Dementia praecox has a similar, but less marked hereditary tendency. Families as a whole tend to have the same type of mental disease, that is, parent to child, and brother to brother. The descendants have the disease earlier and in a more severe form than the ancestor. The disease also tends to disappear and the family to become normal.

Dr. Myerson then discussed the inheritance of feeble-mindedness. This condition may be due to a deficiency of some physiological secretion (cretinism), the unknown thing which causes Mongolianism, organic birth injury, early infectious disease such as encephalitis, idiopathic oligophrenia of the brain, abnormal skull such as occurs in micro- and hydrocephalus, and the unclassified cases. In the last group heredity plays the most important part, and while it does have a causative relation, it does not play as important a part as has been attributed to it. Dr. Myerson stated that the feeble-minded are not really prolific as a class. He pointed out that the classical example of the Kallikak family is probably untrue because the statistics upon which the conclusions are based are inaccurate and vague. Present-day studies at the state hospitals reveal no such similar conditions.

The theory his colleagues and he used as a working basis for research on this problem is called the theory of blastophthoria. Experiments have shown that the germ plasm may be injured, although, on the whole, it tends to recover. While alcohol and syphilis are not to be classed as blastophthoric agents, nutritive and other agents are being considered. Dr. Myerson concluded by stating that future work will probably throw much light upon this subject.

HAMPDEN DISTRICT MEDICAL SOCIETY

The annual meeting of the Hampden District Medical Society was held at the Hotel Kimball, Springfield on April 29, at 4 P. M.

Dr. George H. Bigelow, Commissioner of Public Health, discussed "The Tuberculosis Situation in Hampden County".

Dr. M. W. Pearson of Ware was elected president. Dr. George L. Schadt of Springfield, vice-president and Dr. Hervey L. Smith, secretary-treasurer.

Dinner was served at 6 P. M.

THE FRANKLIN DISTRICT MEDICAL SOCIETY

The Franklin District Medical Society held its Annual Meeting on May 13, at the Weldon Hotel, Greenfield.

The following were elected officers for the ensuing year:

Dr. H. M. Kemp of Greenfield, President.

Dr. A. E. Johnson of Greenfield, Vice-President.

Dr. Charles Moline of Sunderland, Secretary and Treasurer.

After completing routine business the meeting was turned over to the State Committee on Obstetrics and Gynaecology represented by Drs. Mongan, Phaneuf, Paine and Good. These men took part in what proved to be a most interesting and instructive meeting. Two movie films were shown, one the birth of a breech and the other that of a face presentation. Dinner was served after the meeting.

CHARLES MOLINE, *Secretary.*

THE ANNUAL MEETING OF THE ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The Annual Meeting of the Essex South District Medical Society was held at The Tavern, Gloucester, Mass., on May 13, 1930.

The reports of the secretary and treasurer for the year were read and approved. The auditing committee found the treasurer's report to be correct. The following list of officers for the ensuing year was elected:

President: Dr. N. P. Breed, Lynn.

Vice President: Dr. H. E. Whitaker, Gloucester.

Secretary: Dr. R. E. Stone, Beverly.

Treasurer: Dr. Andrew Nichols III, Danvers.

Librarian: Dr. C. M. Cobb, Lynn.

Commissioner of Trials: Dr. J. E. Simpson, Salem.

Censors: Dr. J. F. Jordan (Supervisor), Peabody; Dr. R. W. Haywood, Salem; Dr. A. E. Parkhurst, Beverly; Dr. C. A. Worthen, Lynn; Dr. Hanford Carvel, Gloucester.

Councilors: Dr. J. Armand Bedard, Lynn; Dr. J. F. Jordan, Peabody; Dr. R. E. Foss, Peabody; Dr. T. L. Jenkins, Topsfield; Dr. J. W. Trask, Lynn; Dr. E. B. Hallet, Gloucester; Dr. C. H. Phillips, Beverly; Dr. W. G. Phippen, Salem; Dr. J. F. Donaldson, Salem; Dr. W. T. Hopkins, Lynn; Dr. F. W. Baldwin, Danvers; Dr. O. S. Pettingill, Middleton; Dr. C. L. Curtis, Salem.

Executive Committee: Dr. C. H. Hogan, Salem; Dr. R. P. Hallet, Gloucester; Dr. C. L. Hoitt, Lynn; Dr. Sherman Golden, Beverly; Dr. O. S. Pettingill, Middleton; Dr. C. A. Bonner, Hathorne.

Nominating Councilor: Dr. T. L. Jenkins, Topsfield.

Alternate Nominating: Dr. W. T. Hopkins, Lynn.

The following, Dr. N. P. Breed, Dr. R. E. Stone, Dr. P. P. Johnson are also Councilors.

The President of the parent society, Dr. Robert B. Greenough, was present and spoke concerning medical legislation.

The guests of the evening were Dr. Charles Macfie Campbell, Director of the Boston Psychopathic Hospital, and Professor Biauchini, Di Rector di Teramo

Abruzzi, Professor University of Naples, and also editor of "Archivio Generale di Neurologio e Psicoanalis".

Dr. Biauchini, in response to his introduction, professed unfamiliarity with our language but spoke briefly in a most entertaining manner, referring to his visit to this country for the purpose of attending the first session of the International Conference on Mental Hygiene held during the past week at Washington, D. C. Dr. Campbell gave a more detailed account of the same meeting, and spoke of the different theories of education, referring to the more modern conception which is based upon the theory of opportunity for expression of the personality of the child.

WM. T. HOPKINS, *Reporter.*

NEW ENGLAND SURGICAL SOCIETY

The Annual Meeting of the New England Surgical Society will be held in Boston, Mass., Friday and Saturday, September 26 and 27.

There will be clinics at the Boston hospitals on both mornings. Both afternoons will be given over to the reading of scientific papers. Part of the program for one of the afternoon sessions will be a symposium on "The Newer Surgery of Vascular Diseases".

The Boston Committee on Arrangements is as follows: Dr. J. Dellinger Barney, Chairman; Dr. Horace Binney, Dr. W. P. Graves, Dr. Daniel Fiske Jones, Dr. Charles G. Mixter, Dr. Channing C. Simmons, Dr. Wyman Whittemore.

JOHN M. BIRNIE, *Secretary.*

THIRTY-FIRST ANNUAL SESSION OF THE AMERICAN PROCTOLOGIC SOCIETY

This meeting will be held in Buffalo Sunday, Monday, Tuesday, June 22, 23, 24, 1930.

Headquarters: The Statler Hotel, Buffalo.

The preliminary program may be obtained on application to Curtice Rosser, M.D., 710 Medical Arts Building, Dallas, Texas.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

1929-1930—Massachusetts Dietetic Association. Complete schedule appears on page 852, issue of October 24, 1929.

March-October — International Medical Postgraduate Courses in Berlin. Complete notice appears on page 853, issue of October 24, 1929.

May 22—Boston Dispensary. Detailed notice appears on page 934, issue of May 8.

May 23—New England Pediatric Society. Complete notice appears on page 980, issue of May 15.

May 23—The New England Roentgen Ray Society. Detailed notice appears on page 980, issue of May 15.

June 22-24—Thirty-first annual session of the American Proctologic Society. Complete notice appears above.

June 23-27—Annual meeting of the A. M. A. Auxiliary. Detailed notice appears on page 981, issue of May 15.

June 23-July 12—The Fourth Public Health Institute. Complete notice appears on page 839, issue of April 24.

June 24—American Heart Association, Inc. Detailed notice appears on page 934, issue of May 8.

July 10-12—The American Association for the Study of Goiter. Complete notice appears on page 935, issue of May 8.

September 4-8—Fifth International Congress on Physiotherapy. Complete notice appears on page 906, issue of October 31, 1929.

September 8-12—Postgraduate week of Physical Therapy. Detailed notice appears on page 1025.

September 26-27—New England Surgical Society. Detailed notice appears elsewhere on this page.

October 27—The American Public Health Association. Detailed notice appears on page 1271, issue of December 19, 1929.

March 23-27, 1931 — Fifteenth annual clinical session of the American College of Physicians. Detailed notice appears on page 790, issue of April 17.

BOOK REVIEWS

Nasal Catarrh. W. STUART-LOW. Published by H. K. Lewis & Co., London. Price 5/- net.

A small book of eighty-two pages entitled "Nasal Catarrh" is presented for review. It is written by W. Stuart-Low, consulting surgeon to the Central London Throat, Nose and Ear Hospital and Lecturer on Rhinology at Medical Graduate's College, London.

The author prefaces the book with the statement that it is "the now almost universal belief in the mind of the public that nasal catarrh is incurable and must just be endured". He contends that the main cause of chronic nasal catarrh is nasal obstruction and that "acute and subacute nasal catarrh can be successfully treated and chronic nasal catarrh prevented by operative measures on the throat and nose".

Though it may take time, all nasal catarrhs are considered curable. Carious teeth, diseased tonsils, hypertrophic adenoids, suppurating ears, a nasal foreign body, nasal polypi, sinus infections, each can keep active a nasal catarrh; but particularly will any obstruction to good nasal breathing prevent healing.

For medication, the author condemns emphatically any syringing of solutions into the nose, but recommends sniffing them up or spraying them in. He decries the frequent habit of shaking a dry germ-laden handkerchief before using it and claims that it is more dangerous than "spitting" in public places. Nasal discharges should be examined bacteriologically; pneumococci and streptococci give the most trouble. His experience with vaccines has not been favorable. For treating post-nasal secretions, he likes 10 grains of menthol and 1 drachm of spirits of wine to 1 ounce of water, one teaspoonful of the resulting solution to be added to three-quarters of a pint of nearly boiling water and the vapor inhaled through the mouth and exhaled through the nose for ten minutes every two hours. He remarks "that ordering a patient to invest in a new suit of clothes has often greatly aided me in curing a nasal catarrh, because the pocket gets contaminated by the foul handkerchief being carried in it, and so septic infection is renewed and carried again and again to the nose, thus perpetuating the trouble".

Various operative remedies for nasal obstruction are outlined. He thinks submucous resections of the nasal septum are done too often, and that operators

are prone to remove too much turbinate tissue and sacrifice too much nasal mucous membrane. His remedy for this last ill is to remove the indicated amount of the turbinal bony structure submucously and to leave the mucous membrane intact.

In the author's opinion one of the most frequent causes for nasal obstruction is alar collapse. If this is not remedied, any amount of operative work on the septum or turbinate bodies will not avail. This alar collapse may be due to a falling in of the outer limb of the lower lateral cartilage, or to a projection of its inner limb, or to a thickening of the septal cartilage between the inner lateral wings. Combinations of these irregularities may exist. The remedy is to remove the redundant skin in the vestibule and the cartilage beneath. By removing a little more of the septal cartilage at this anterior point than seems necessary, the tip of the nose tends to collapse a little and so broaden a narrow nasal vestibule.

He makes an interesting comment on the wisdom of operating on nasal septa in children with septal displacements causing nasal obstructions. "After a large experience in operating on such cases, mostly in boys ranging from six to twelve, I have no hesitation in strongly urging the advisability and practicability of such operative procedure, providing that certain precautions are observed." These are: —not to remove too much tissue and to leave behind sufficient structural support. In some he "leaves alone the upper third or half of the obstruction, and only makes a tunnelled passage for the respired air to pass through". He uses oiled silk for his dressings.

The book closes with a short chapter on vasomotor rhinitis. One of its chief claims for our interest is that it doubtless reflects the viewpoint of not all, but of many, of our English confreres.

The Physiology of Oral Hygiene and Recent Research. 2nd Edition. By SIM WALLACE. Size 8¾ x 5½ inches. Number of pages VIII+226. Figures in text 7. Price 10s. 6d. net. London, 1929. Bailliere, Tindall & Cox.

Dr. Wallace's book is made up of a series of independent communications which he was called upon to read on various occasions. These articles appeared originally in the *British Medical Journal*, the *Medical Press and Circular*, *Public Health*, and the *Pacific Gazette*.

In Chapter I, *The Physiology of Oral Hygiene*, the writer describes the complicated process of mastication, the preparation of food preliminary to digestion, and the secondary function of the self-cleansing of the teeth if suitable foods are used. The action of the saliva in digestion and the effect of the mucus and saliva on oral hygiene is an especially interesting problem of physiology and, as Wallace states, is not generally appreciated by the physiologists, much less by the public.

In Chapter II, *Vitamines and Dental Hypoplasia*, Wallace belittles the idea that lack of Vitamine A produces dental caries. He states in summing up that lack of fat-soluble A in the diet of children may be assumed to account for one carious tooth in 100,000, and that dental caries is a disease found most abundantly in children who are fed with foods rich in fat-soluble A. He believes that dental caries is not a deficiency disease but a luxury disease, depending upon the stagnation (around the teeth) of easily fermentable and generally expensive carbohydrates.

In Chapter III, *Food and Teeth*, the relation of the various types of food to dental diseases, especially caries and pyorrhoea, is described. The physiology of mastication, including the function of saliva and mucus, is described again.

Chapter IV is a review of the important research work done on the problem of dentistry, especially as it applies to the prevention of dental diseases. Wallace does not believe in the heredity of poor teeth, but calls the principal etiological factor "carbohydrate stasis", a prolonged lodgment of carbohydrates acted upon by acid-producing bacteria.

"Preventive dentistry in England and our debt to the Dental Profession of America" is the title of Chapter V. This is a paper read before several medical and dental societies in the United States and Canada. Of special interest is a classification of various types of food from the point of view of the effect on the teeth. The teeth-cleaning foods are fresh fruits: apples, oranges, nuts; raw vegetables: lettuce, watercress, celery, radishes, onions; crusts of (whole meal) bread, crisp toast, twice-baked bread; meat, fish, bacon.

In Chapter VI, the more recent research work on diet and accessory food factors is taken up. The paper ends as follows: "It is pitiable that so much misleading work should have been done in recent years to try to drag wild ideas about vitamines into the relatively simple solution of the problem of dental caries".

Chapter VIII is an address to students at the College of Dentistry, University of California, on "Dental Research".

In Chapter IX, entitled "Observations on Medico-dental Research", the writer starts out to say that much of the research work done in America, the past few years, has been useless and misleading. The work referred to is again that of the relation of vitamines to tooth formation, and this Chapter is directed against the tenets of the vitamine school.

Chapter X deals with "Recent research on enamel and the incident of dental caries".

Chapter XI is entitled, "Observations on the Prevention of Oral Sepsis and Dental Caries". Illustrations in these chapters show how caries attacks the enamel. The photomicrographs are by our well-known dental investigator, Dr. Leon Williams.

"The Prevention of Dental Caries—Obstacles in the Path of Progress" is the title of the last chapter. Wallace criticizes severely the work of the Medical Research Council in attempting to prevent caries by bringing up children on a calcifying-vitamine diet which ended in failure, as might have been foreseen, he says, from an analysis of previous research work.

This book, as already stated, is a collection of a

number of papers read by Dr. Wallace. A book of this type does not appeal to every reader. The lack of coördination and the constant repetition of the same material, though in a way apologized for in the introduction, is tiresome to pursue through so many pages. It could have been systematically presented in one-tenth of the space.

Normal Facts in Diagnosis. By COLEMAN HARRIS and BENJAMIN FINESILVER, F. A. Davis Company, Publishers, 1930. Pp. 247. Price $2.50.

The purpose of this book is to present in an accessible form some of the normal findings in physical diagnosis and in laboratory data so that the student may more easily recognize pathological variations. Such information is notoriously difficult to obtain from ordinary texts, and is commendably collected here. In general arrangement and plan the book is excellent, but there are a good many details which should be revised. The authors at times seem to lose their sense of perspective, giving insignificant data in childlike detail; and again passing over fairly important points with little comment. Again they describe the technique of various examinations, lumbar puncture, ophthalmoscopy, cholecystography, blood counting, and vene puncture in a manner neither suited to the subject at hand nor even adequately to allow proper performance of the procedure. The presentation of the normal findings determined by such maneuvers and not the mechanism involved is the true expressed purpose of the book. One would suggest some mention of normal values of sugar tolerance curves, and the variation of spinal fluid pressure with jugular compression and with respiration. There is also a good deal of loose thought in including anatomical facts not of clinical significance, such as the number of ligaments of the knee rather than the limits of motion in that joint. It is implied that position is purely a function of cerebellar activity without regard to the integrity of the posterior tracts. Whether so much space should be devoted to description of arbitrary anatomical "lines" is debatable, but to the reviewer it seems excessive. In final criticism, one must say that the book seems not to have been adequately edited in respect to the use of terms. Among such omissions: van den Bergh reaction is used synonymously with icteric index; gram is once used for milligram. Such facts are not essential in themselves, but they destroy one's confidence in the book. It is to be hoped that in a future edition these minor objections may be removed so that the very great value of the book may be unimpaired.

Procedure in Examination of the Lungs, With Special Reference to the Diagnosis of Tuberculosis. By ARTHUR F. KRAETZER, M.D. With a Foreword by James Alexander Miller, M.D. Oxford Medical Publications, New York, $2.00.

In his foreword Dr. Miller states that "there is really nothing very complicated in the method of making physical examinations of the chest or arriving at correct conclusions. . . . In many, if not the majority of cases, the diagnosis should be suspected at least, if not really made, from the history alone. . . ." With this as a foreword it is interesting to read the text which follows. Whether or not Dr. Kraetzer has deliberately gone out of his way to use obscure and difficult language, to make use of unusual words and to present his thoughts in such a manner that his exact meaning is remarkably successfully hidden, I do not know. If he intended to do this he has certainly succeeded. If he intended to give a clear and simple exposition of the methods in use in examining a chest and in arriving at a correct diagnosis, he has certainly not succeeded. As examples of this, the following are some of the words, phrases and terms which I have picked out at random: "Conventional instruction is deductive"; "actual examination is inductive"; "essential synthesis"; "a kinetic mental procedure"; "a deprecatory state of mind"; "an actual objective critique of his percussive and auscultatory findings"; "somatically"; "the expression of visceral disease is spasm", etc.; "the so-called enteroptotic configuration"; "bronchiality" (used three times in two pages) and "a synthesis of all the various data" used on pages 43 and 46; "in an interpretative sense"; "the concomitance of other signs"; "a fibrositis of the intercostal muscles"; "to cut off the terrific cardioinhibitory stimuli sweeping over the vagus". This last expression is certainly worthy of the movies. "In the parlous first stage of spontaneous pneumothorax"; "delimited"; "this inscrutable and inexorable fact"; "an essentially inductive discipline"; "deduction in physical diagnosis is bad technique and bad morals"; "râles *are* an easy subject to start discussing"; "a true critique of physical signs"; "cases of hyperpiesia past middle life"; "the necessity of constantly synthesizing"; "sudden and catastrophic in its onset"; "the sign of a banal bronchitis"; "plus a peculiar synthetic discipline of the mind"; "*sanitorium*"; "badly denominated"; "subcrepitant . . .". The reader will agree with me, I am sure, that this is a remarkable collection of words, expressions and phrases.

There is much in what he teaches in this book which is excellent; there is much which he states as the only method of procedure with which many would disagree. His advice to practice percussion balancing a glass of water on the right wrist is absurd. Some of the most skilful percussors the world has ever seen, notably Dr. F. C. Shattuck of Boston, never used the "light, sharp, staccato stroke" which he says is the only possible method. He devotes a great deal of time to the fibrositis of intercostal muscles. On inquiring of Dr. Miller, who wrote the foreword of this book, what fibrositis of the intercostal muscles was he admitted his ignorance of the subject. He over-emphasizes the value of respiratory excursion and apparently feels that the outlining of Krönig's Isthmus is important. I am strongly of the opinion that in the vast majority of cases time spent in outlining this hypothetical area is time wasted and any deductions made there-

by are usually wrong. He apparently believes that all cavities in the lungs, no matter what their size, can be outlined and should be diagnosed clinically without the aid of an x-ray. This is certainly a long way from the truth. He speaks of Grocco's Triangle and Wintrich's Sign, both of which are of remarkably little help. He quite properly emphasizes the value of the whispered voice. He states that the first stage of spontaneous pneumothorax is accompanied almost invariably by the most profound distress or even collapse. There are many cases of pneumothorax which take place without the patient being aware of the fact in the slightest.

I note with approval that he speaks of pleurisy with effusion as being invariably tuberculous and agree entirely with his statement that where a negative sputum has any weight in the ruling out of tuberculosis is where there have been numerous negative examinations in the presence of extensive pathology. His remarks on râles and their classification are excellent. He speaks of basal tuberculosis as existing but that it is rare. In my experience it is not so particularly rare. He devotes a great deal of time to endeavoring to prove that there is no such thing as chronic bronchitis and that every case of chronic bronchitis means error in diagnosis, either weak heart, bronchiectasis or tuberculosis or something else. He goes on in the following pages, however, to use the word, bronchitis, a dozen or so times in referring to various conditions in the lungs. If he had seen the men who had been gassed or had influenza in the war left with a chronic cough which was not due to a weak heart or to bronchiectasis or to tuberculosis he would probably admit to a diagnosis of a chronic bronchitis.

The book is interesting and is one which will certainly create discussion. I do not feel that I can recommend it to medical students, however.

The Treatment of Skin Diseases in Detail. By Noxon Toomey, M.D., B.A., F.A.C.P. Pp. 512. The Lister Medical Press, Saint Louis, 1930. Price $7.50.

This volume is the third and completing one in the series of three on the Principles and Practice of Dermatology, by Dr. Toomey. Its predecessors have been devoted to the pathology and to the diagnosis of skin diseases.

Dr. Toomey's book is a decidedly original and personal expression of the methods of treatment which he has used in his private and hospital practice. It becomes inevitable that in a book of this sort, the treatment of the rarer conditions, with which he is the most familiar and in which he is the most interested, is given in the greatest detail.

More space could be well devoted to detailing procedures in caring for common routine conditions which go to make up the bulk of the doctor's practice, whether he be a general practitioner or a dermatologist.

The book is written in an informal colloquial style that is both entertaining and easy to read. Reference would be made easier by the use of more subheading, shorter paragraphs and the adoption of a uniform presentation of prescriptions.

X-ray is enthusiastically endorsed as the treatment of choice in many conditions. "I strongly recommend a simple, intensive X-ray treatment of all (non-surgical) non-cystic epitheliomata that are not situated near the eye. Radiation by means of an unfiltered radium plaque offers a very slight advantage over an equivalent amount of radiation from a Coolidge tube, but the difference is not sufficient to warrant radium therapy except in very unusual cases." Many would dispute as strong a statement as that.

Although he finds the use of the mercury quartz light of great advantage in many conditions, no mention of its value is made in dermatitis herpetiformis.

In this day of the almost universal recognition of the superiority of the twenty-four hour treatment of scabies with Danish ointment, or similar mixtures, it seems odd to find the old-fashioned three-day treatment with the sulphur preparations still given as method of choice.

The amount of space given to the treatment of syphilis is extensive, but the statements are so generalized as to be of comparatively small value to the man seeking definite information in any given phase of the disease.

The author endorsed the use of gold thiosulphate in the treatment of lupus erythematosus and apparently relies upon this type of medication, plus soothing local applications, to the total exclusion of such time-honored measures as carbon dioxide snow and filtered radium.

The vast subject of dermatitis venenata is dismissed with a discussion of only two pages in length of the treatment of that phase of it produced by poison ivy. The benefits of the use of the intramuscular injections of the antigen in oil are barely mentioned.

The treatment of epidemic impetigo contagiosa in maternity hospitals is covered in one short paragraph. Only a page and a half is devoted to the treatment of erysipelas. The proper use of the electric needle in hypertrichosis is described in great detail and very properly the use of x-ray in this condition is condemned.

As so often happens in first editions the mechanics of proof reading and book-making leave much to be desired and to be corrected in the later editions. Misspellings are not unknown and there is a disconcerting and frequent occurrence of the use of type from two different fonts which mars the appearance of the pages. Page 366 is entirely out of place and the reading material on page 367 should follow that on page 365. The prescriptions are given in the metric system with their English equivalents in most instances. This feature is an excellent one and should be continued throughout the book. The English equivalents as given, however, are not always consistent in amount. There are no illustrations or bibliographic references.

Symptoms of Visceral Disease, by F. M. POTTENGER, 4th edition, C. V. Mosby Company, 1930, pp. 425, price $7.50.

The title of this book is misleading in that the text is devoted almost exclusively to the presentation "to the clinician of the important facts of vegetative neurology in such manner that they may be understood and applied to the every day practice of medicine". Such is the expressed aim of the author, but simple facts have been so completely submerged in the flood of detail that they are scarcely recognizable. The subject matter is an anatomical résumé rather than a clinical guide.

The book is divided into three main sections. Of these the first is devoted to a discussion of the embryological development and anatomical relations of the vegetative nervous system. The second is a survey of general function on the basis of the antagonistic action of the sympathetic and parasympathetic systems, while the final chapters are devoted to the interplay of action upon each of the viscera, with illustrations of viscero-motor and viscero-sensory reflexes.

There is much that is of very great value in this book. The tremendous amount of anatomical and physiological data, with numerous references to original sources, indicate its sound foundation; but the manner of presentation is very confusing. The style is difficult to follow, with sentences composed of many dependent (or independent) phrases, often covering five to six lines. Long words are used to express simple ideas, and the general result is very unconvincing because of so many poorly connected facts. Many of the latter deserve a place in a book of anatomy, rather than one on "Symptoms". It is hard to justify so much speculation on the basis of form, especially when the author repeatedly states that he "does not make these assertions as facts, but only for the purpose of stimulating thought". Essential as is the appreciation of interdependence and correlation of organs, philosophical comments upon this universal truth are repeated almost ad nauseam in the early pages of the book.

However, there is a great deal of original thought to be found here, and many stimulating suggestions. The clinical application of cell chemistry, though somewhat speculative, is extremely interesting. The illustrations are clear, very much to the point, and very numerous. Moreover, the emphasis of the trophic changes associated with chronic visceral disease, as opposed to sensory and motor changes of acute disease, gives the vegetative nervous system a new scope in diagnosis. The main criticism which can be made of the book as a whole is that there is included so much detail unnecessary to the understanding of the argument that the fundamental purpose and theme is completely lost. But because of the extensive bibliography the book must inevitably be a valuable reference source for original publications. The purpose for which the volume is intended is commendable, and the need admitted; but while potentially it is excellent, the present form of the book scarcely justifies a fourth edition.

Cancer of the Breast. By WILLIAM C. WHITE, M.D., F.A.C.S. 217 pages; Harper & Brothers, New York and London, 1930; price $3.00.

In this work Dr. White has given an excellent summary of cancer of the breast. The book is written primarily for the general practitioner but also for the surgeon doing more or less breast surgery who probably finds it difficult to keep up to date with the various phases of treatment.

This small monograph, clearly written, which brings together the various contributions to the diagnosis, pathology, prognosis, and treatment of cancer of the breast, is sure to be of value not only to "the practitioner and occasional operator" but to anyone who takes the responsibility of any suspected lesion of the breast.

Essentials of Medical Electricity. By ELKIN P. CUMBERBATCH, M.D. Sixth Edition. Pp. 443. Published by The C. V. Mosby Company. September, 1929. Price $4.25.

The fifth edition of this book was published in 1921. The sixth edition contains many alterations, added illustrations, and a very complete index. It brings the subjects of the galvanic and high frequency currents up to date in a practical and comprehensive manner and has much additional information on the subject of electro-surgery. The various chapters are well arranged and well written. Altogether the book is one which can be recommended as an authoritative guide in the study and use of medical electricity.

Hemorrhoids—The Injection Treatment and Pruritus Ani. By LAWRENCE GOLDBACHER, M.D. Published by F. A. Davis Company. Price $3.50.

This is a small volume of 198 pages written in a concise manner. A review of the anatomy, physiology and classification of hemorrhoids, together with a brief historical sketch is given. The author advocates injection treatment, using 5% solution of phenol in Wesson or cottonseed oil and given at intervals of 5 to 7 days for 6 to 8 treatments. He has discarded all other solutions. He uses a special needle with a sheath or guard. The amount of solution injected varies from ½ to 10 c.c., depending on the size of the pile. Two dozen illustrative cases are given in some detail. The author has practically discarded operation in the treatment of uncomplicated internal hemorrhoids. He bases his conclusions on his own experience in 5000 cases since 1914 and quotes freely from recognized authorities.

Pruritus ani is briefly discussed. The author reports a form of therapy which has been at least partially successful in all cases he has treated. He uses the same solution as in the case of hemorrhoids, injected submucously in the anal canal, and also often beneath the perianal skin. This treatment is based on a theory that the itching is caused by an irritating fluid which occupies subtegumentary

and submucous tissue spaces. Injection obliterates this space. What the fluid is he does not attempt to say.

Die Chirurgie—Section 26. Surgery. A Collective Presentation of General and Special Surgery. Edited by Prof. Dr. M. Kirschner and Prof. Dr. O. Nordmann. Urban and Schwarzenberg.

The volume Surgery of the Bone by Priv. Doz. Dr. Leopold Schönbauer, Vienna, is prefaced by a presentation of the anatomy, physiology and biology of bone, with an extensive bibliography of references to the literature. The volume throughout is well illustrated by photographs of specimens and x-rays. There are also some excellent colored plates. The chapter on osteomyelitis deserves special commendation. Differential diagnosis is stressed throughout and adds greatly to the value of the work.

Treatment in this volume is outlined in a rather general way and for detail the reader is referred to the original articles on the subject. Conservative treatment is balanced against radical in a statistical ratio.

The section on fractures is profusely illustrated by descriptive cuts of modern German apparatus and by Roentgenograms of various types of fractures.

This work should make a strong appeal to the general and orthopaedic surgeon.

Oxford Monographs on Diagnosis and Treatment, edited by Henry A. Christian, M.D., Sc.D., LL.D. New York: Oxford University Press. $100 for the set of 10 volumes; not sold separately. Volume VII, The Diagnosis and Treatment of Variations in Blood Pressure and Nephritis, by Herman O. Mosenthal, M.D.; Volume VIII, The Diagnosis and Treatment of Diseases of the Liver and Biliary Tract, by John Phillips, M.B.; Volume IX, The Diagnosis and Treatment of Diseases of the Blood, by Thomas Ordway, M.D., and L. Whittington Gorham, M.D.

The three additional volumes to this splendid set of books continue to carry out the plan suggested in the earlier volumes. Each disease, or group of diseases, is discussed separately. In reviewing the first six volumes of this series, it was pointed out that the arrangement of the material, the clear-cut method of presentation, the few but well chosen illustrations, and the excellent short bibliographies were the main features of the books. All these factors again appear in the new volumes and it is a pleasure to again recommend highly this series of medical monographs.

Surgery at the New York Hospital One Hundred Years Ago. By Eugene H. Pool and Frank J. McGowan. New York: Paul B. Hoeber, Inc. 1930. Price $1.50.

This interesting volume recounts the early history of the New York Hospital, second in America; and from an old note-book or surgical register, recently discovered, abstracts a number of selected cases illustrating the conditions and practice of surgery a century ago. There are cases of rupture of the liver and of the bladder; cases of tetanus, rattlesnake bite, lightning stroke, and dislocation of the crystalline lens; compound fractures, dislocations, and amputations; osteomyelitis, syphilis, hernia, and aneurysm. The work is illustrated with twenty-four full-page plates, including pictures of the hospital, of the surgical register, of pages from the register, and portraits of a number of the physicians and surgeons of the time. There is an excellent appendix of references and notes, and an index of personal names and of subjects. This volume is an extremely valuable contribution to the history of surgery from original sources.

BOOKS RECEIVED FOR REVIEW

Normal Facts in Diagnosis by M. Coleman Harris and Benjamin Finesilver. Published by F. A. Davis Company. 247 Pages. Price $2.50.

The Normal Diet by W. D. Sansum. Published by C. V. Mosby Company. Third Revised Edition. 134 Pages. Price $1.50.

Reflex Action by Franklin Fearing. Published by the Williams and Wilkins Company. 350 Pages. Price $6.50.

The Improved Prophylactic Method in the Treatment of Eclampsia by Prof. W. Stroganoff. Third Edition. First English Edition. Published by William Wood and Company. 154 Pages. Price $3.50.

The Morphine Habit and Its Painless Treatment by G. Laughton Scott. Published by H. K. Lewis and Company Ltd. 94 Pages. Price 5/- net.

Manuel Élémentaire de Psychiatrie by M. Nathen. Published by Masson et Cie, Éditeurs. 319 Pages. Price 30 fr.

Leçons de Physico-Chimie by various authors. Published under the direction of A. Strohl. 282 Pages. Price 40 fr.

The Surgical Clinics of North America, April, 1930. Volume 10, Number 2. Chicago Number. Published by W. B. Saunders Company. 252 Pages.

Diabetes by Benjamin F. Smith. Published by D. Appleton and Company. 223 Pages. Price $2.00.

Adolescence by Frankwood E. Williams. Published by Farrar and Rinehart Inc. Publishers. 279 Pages. Price $2.50.

Gynecology for Nurses by George Gellhorn. Published by W. B. Saunders Company. 275 Pages. Price $2.00.

Obstetrics for Nurses by Joseph B. DeLee. Published by W. B. Saunders Company. Ninth Edition. 654 Pages. Price $3.00.

Tuberculosis Among Children by J. Arthur Myers. Published by Charles C. Thomas Publisher. 208 Pages. Price $3.50.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS, APRIL, 1930

GENERAL PREVALENCE

The reported incidence of communicable diseases in April was about twice that for the same month last year, due to the increased prevalence of measles, German measles and whooping cough.

The reported incidence of diphtheria while within endemic limits was the lowest for any April, except 1926. The prevalence of anterior poliomyelitis was distinctly low.

Measles continued to be very prevalent in certain sections of the State, and also was this true of German measles. Similarly, the prevalence of whooping cough was above expectancy, while typhoid fever showed a marked increase over "normal" for this season. Epidemic meningitis, while somewhat high, showed an encouraging fall below the figure of the preceding month as well as of April of last year.

The reported incidences of scarlet fever, lobar pneumonia and pulmonary tuberculosis were within endemic limits. Similarly, chickenpox, mumps, influenza and non-pulmonary tuberculosis were reported with expected frequency.

Gonorrhea and syphilis continued to be reported with increased frequency.

RARE DISEASES

Anterior Poliomyelitis was reported from Billerica, 1; Boston, 1; Lawrence, 1; total, 3.

Anthrax was reported from Boston, 1; Lynn, 1; Peabody, 1; Springfield, 1; total, 4.

Dysentery was reported from Cambridge, 1; total, 1.

Encephalitis lethargica was reported from Newton, 1; Springfield, 1; total, 2.

Epidemic c. s. meningitis was reported from Arlington, 3; Boston, 7; Chicopee, 1; Fall River, 1; Fitchburg, 1; Lawrence, 1; Marblehead, 1; New Bedford, 1; Northampton, 1; Worcester, 2; total, 19.

Malaria was reported from Brookline, 1; Haverhill, 1; total, 2.

Septic sore throat was reported from Amesbury, 1; Amherst, 1; Boston, 7; Brockton, 1; Brookfield, 1; Cambridge, 1; Groton, 1; Malden, 1; Milford, 1; Milton, 1; Quincy, 1; Somerville, 1; Watertown, 1; West Springfield, 1; Whitman, 1; Winthrop, 1; Worcester, 1; total, 23.

Tetanus was reported from Medford, 1; total, 1.

Trachoma was reported from Boston, 1; Brockton, 1; Lynn, 1; total, 3.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES.

	Cases in Entire Population				Case Rates per 100,000 Pop.		
	Apr. 1930	Apr. 1929	Prosodemic Index	Epidemic Index	Apr. 1930	Apr. 1929	Expected Rate***
ALL CAUSES	14,158	7,562	-	-	319.1	172.6	-
Ant. Poliomyelitis	3	3	8*	.4**	.1	.1	.2
Diphtheria	285	360	307*	.9**	6.4	8.2	6.9
Ep. c. s. meningitis	19	24	11*	1.7**	.4	.5	.2
Measles	5751	1922	6125*	.9**	129.6	43.9	138.1
Pneumonia, Lobar	597	442	536*	1.1**	13.5	10.0	12.1
Scarlet fever	1206	1198	1584*	.8**	27.2	27.3	35.7
Tuberculosis, Pul.	502	425	484*	1.0**	11.3	9.7	10.9
Typhoid Fever	20	18	13*	1.5**	.5	.4	.3
Whooping Cough	1315	710	978*	1.3**	29.6	16.2	22.0
Chicken Pox	857	768	-	-	19.3	19.6	-
German Measles	1106	148	-	-	24.9	3.4	-
Gonorrhea	558	274	-	-	12.6	6.3	-
Influenza	45	78	-	-	1.0	1.8	-
Mumps	809	447	-	-	18.2	10.2	-
Syphilis	355	114	-	-	8.0	2.6	-
Tuberculosis, O.F.	81	52	-	-	1.8	1.2	-

* This Index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

** This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus, 2.0 would indicate twice the expected number of cases, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the Boston Medical and Surgical Journal.

*** Calculated from the Prosodemic Index.